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ELEVENTH
BIENNIAL REPORT
OF THE
COMMISSIONER
OF
AGRICULTURE
OF THE
STATE OF FLORIDA
FOR THE PERIOD
BEGINNING JANUARY 1, 1909, AND ENDING
DECEMBER 31, 1910.

IN GOD WE TRUST.

T. J. Appleyard, State Printer,
Tallahassee, Fla.
1911

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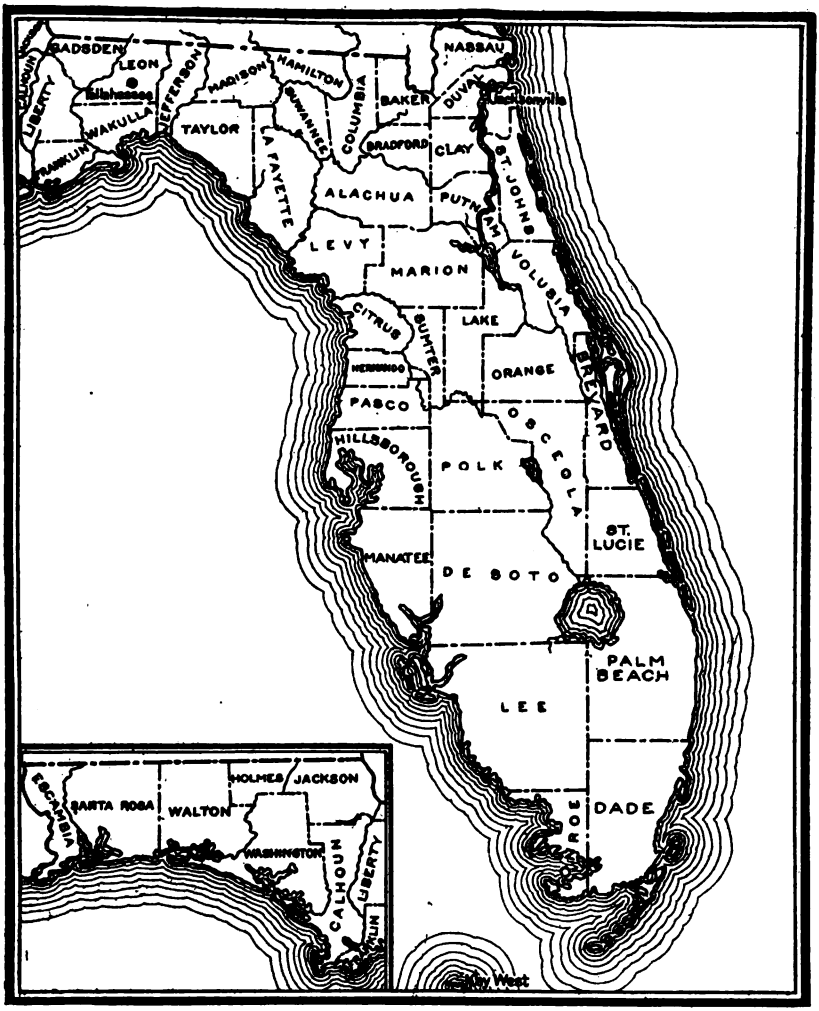

COUNTY MAP OF STATE OF FLORIDA

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Report of State Chemist in Form of Bulletins.

LETTER OF TRANSMITTAL.

Department of Agriculture, State of Florida,
Commissioner's Office.

To His Excellency,
Albert W. Gilchrist,
Governor of the State of Florida:

Sir:

As is provided by law, I here submit the Biennial Report of the Department of Agriculture for the years 1909 and 1910. The dates upon which the agricultural, horticultural and industrial statistics are based cover the period from July 1, 1908, to June 30, 1910. All other divisions in the report extend to December 31, 1910.

Respectfully submitted,
B. E. McLIN,
Commissioner of Agriculture.

STATEMENT OF EXPENDITURE OF APPROPRIATION.

As is provided by Chapter 5870, Laws of Florida, Acts of the Legislature, 1909, I here submit a detailed report of the expenditures of funds appropriated for the different divisions of the Department of Agriculture.

POSTAGE AND STATIONERY FOR AGRICULTURAL DEPARTMENT.

1909.			
Jan.	1—By appropriation for six months of 1909, (by Legislature of 1907) ......$	......	$ 375.00
Jan.	2—To Postal bill for December, 1908	175.28	
Jan.	4—To W. U. Telegraph Co., Dec. bill, 1908	7.78	
Jan.	6—To Southern Express Company, December bill	29.00	
Mch.	1—To Postal bill for Feb..	218.46	
May	6—To postage April Quarterly Bulletin, 1,903 lbs.	19.03	
May	6—To Postal bill for April	1.24	
May	6—To W. U. T. Co., April bill	10.25	
June	2—To Postal bill for May in part (see Incidental Expense acount.)........	9.78	
		$ 470.82	$ 375.00
	By deficiency to balance		95.82
			$ 470.82

POSTAGE FOR AGRICULTURAL DEPARTMENT.

1909.			
July	1—By appropriation for last six months of 1909 (by Legislature, 1909)		$ 350.00
July	2—To Postal bill for June.	25.99	
Aug.	2—To Postal bill for July	57.28	
Sept.	1—To Postal bill for August, stamps	56.17	
Sept.	1—To Postal bill for August, Bulletin	19.85	
Nov.	1—To Postal bill for Oct..	55.11	
Nov.	1—To Postal bill for Oct. Bulletin	19.62	
Dec.	1—To Postal bill for Nov	55.33	
1910.			
Jan.	1—By appropriation for year 1910 ....$	......	$ 700.00
Jan.	3—To Postal bill for Dec. 1909	56.21	
Feb.	1—To Postal bill for Jan...	76.16	
Mch.	2—To Postal bill for Feb..	91.13	
Apr.	1—To postage on Quarterly Bulletin (Rose's Report), $33.75, postage due 32 cents......	34.07	
May	2—To Postal bill for April	72.96	
June	1—To Postal bill for May	83.63	
June	1—To postage on Quarterly Bulletin for April	19.33	
July	1—To Postal bill for June	52.33	
Aug.	1—To Postal bill for July	36.08	
Sept.	7—To Postal bill for Aug	68.88	
Oct.	6—To Postal bill for Sept.	1.11	
Oct.	7—To So. Ex. Co., Sept. bill	26.27	
Nov.	1—To Postal bill for Oct.	48.46	

1910.			
Nov. 1	—To W. U. T. Co., for Oct.	5.47	
Nov. 7	—To So. Ex. Co., Oct. bill	18.89	
Dec. 6	—To postage Quarterly Bulletin for Oct. (1,983 pounds)	19.83	
Dec. 10	—To W. U. T. Co., for Nov.	9.68	
Dec. 10	—To So. Ex. Co., for Nov.	31.22—	$ 1,050.00
		$ 1,041.06—	1,041.06
	Balance		$ 8.94

PRINTING QUARTERLY BULLETIN, AGRICULTURAL DEPARTMENT.

1909.			
Jan. 1	—By appropriation for first six months of 1909 (by Legislature, 1907).$	......	$ 1,000.00
Apr. 1	—To the Capital Pub. Co., Bulletins for first quarter, 1909	710.08—	710.08
	Balance		$ 289.92

The balance shown here of $289.92 could not be carried forward because, it being the end of the fiscal year, and prior to the Legislature of 1909, there was no authority for carrying forward balances from year to year. It therefore went back into the Treasury.

PRINTING QUARTERLY BULLETIN, AGRICULTURAL DEPARTMENT.

1910.			
July 1	—By appropriation for last six months of 1909 (by Legislature, 1909).$	......	$ 1,000.00

1909.			
Aug. 20	—To Capital Publishing Co., Quarterly Bulletin for July 1, 8,500 copies	655.37	
Oct. 22	—To Capital Publishing Co., Quarterly Bulletin for Oct., 8,500 copies...	635.60	
1910.			
	By appropriation for year 1910 ....$	......	$ 2,000.00
May 12	—To T. J. Appleyard, succesor to Capital Pub. lishing Co., Quarterly Bulletin for April, 1910, 9,500 copies ....$	494.00	
Aug. 4	—To T. J. Appleyard, State Printer, printing Quarterly Bulletin for July, 8,500 copies	386.75	
Oct. 20	—To T. J. Appleyard, State Printer, printing mailing list for Bulletin	110.00	
Nov. 5	—To T. J. Appleyard, State Printer, printing Quarterly Bulletin for Oct., 8.500 copies.....	497.25—	$ 3,000.00
		$ 2,778.97	2,778.97
	Balance		$ 221.03

Express and Telegrams, Agricultural Department.

1909.

Jan.	1—By appropriation for first six months of 1909 (by Legislature of 1907).	$	$ 150.00
Feb.	2—To W. U T. Co., Jan. bill	15.46	
Feb.	3—To So. Ex. Co., Jan. bill	40.25	
Mch.	3—To W. U. T. Co., Feb bill	6.30	
Mch.	5—To So. Ex. Co., Feb. bill	32.43	
Apr.	2—To W. U. T. Co., Mch. bill	6.82	
Apr.	3—To So. Ex. Co., Mch. bill	32.06	
May	6—To So. Ex. Co., Apr. bill	11.85	
June	3—To W. U. T. Co., May bill	4.99	
		$ 150.16—	$ 150.00
	By deficiency to balance....		.16
			$ 150.16

Express and Telegrams, Agricultural Department.

1909.

July	1—By appropriat'n for last six months of 1909. (By Legislature of 1909.)...	$	$ 150.00
July	2—To W. U. Tel. Co., June bill	7.84	
July	3—To Sou. Ex. Co., June bill	14.52	
July	13—To freight on box books from Raleigh, N. C., by S. A. L. R. R...........	1.96	
Aug.	3—To Sou. Ex. Co., July bill	15.25	
Aug.	4—To W. U. Tel. Co., July bill	4.37	

1909.			
Aug.	20—To frt. on copying books from New York	1.50	
Sept.	3—To Sou. Ex. Co., August bill	7.75	
Sept.	10—To W. U. Tel. Co., Aug. bill	6.18	
Oct.	2—To W. U. Tel. Co., Sept. bill	10.46	
Oct.	4—To Sou. Ex. Co., Sept. bill	24.86	
Nov.	2—To W. U. Tel Co., Oct. bill	17.52	
Nov.	4—To Sou. Ex. Co., Oct. bill	17.25	
Dec.	2—To W. U. Tel Co., Nov. bill	10.13	
Dec.	4—To Sou. Ex. Co., Nov. bill	23.53	
1910.			
Jan.	1—By appropriat'n for year 1910 $	......	$ 300.00
Jan.	4—To W. U. Tel. Co., Dec. bill	24.34	
Jan.	4—To Sou. Ex. Co., Dec. bill	22.70	
Feb.	3—To W. U. Tel. Co., Jan. bill	15.35	
Feb.	3—To Sou. Ex. Co., Jan. bill	30.93	
Mch.	4—To W. U. Tel. Co., Feb. bill	17.22	
Mch.	4—To Sou. Ex. Co., Feb. bill	33.13	
Apr.	7—To Sou. Ex. Co., March bill	26.35	
Apr.	8—To W. U. Tel. Co., March bill	15.46	

1910.			
May	2—To W. U. Tel. Co., April bill	10.11	
May	4—To Sou. Ex. Co., April bill	10.79	
June	2—To W. U. Tel. Co., May bill	7.30	
June	8—To Sou. Ex. Co., May bill	13.70	
July	1—To W. U. Tel. Co., June bill	3.42	
July	8—To Sou. Ex. Co., June bill	42.39	
Aug.	4—To W. U. Tel. Co., July bill	8.31	
Aug.	4—To Sou. Ex. Co., July bill	19.49	
Sept.	7—To W. U. Tel. Co., Aug. bill	6.09	
Sept.	9—To Sou. Ex. Co., Aug. bill	25.82	
Oct.	7—To W. U. Tel. Co., Sept. bill	11.59	
		$ 507.61—	$ 450.00
	By deficiency balance		57.61
			$ 507.61

INCIDENTAL EXPENSES, COMMISSIONER OF AGRICULTURE.

1909.			
Jan.	1—By appropriat'n for first six months of 1909. (By Legislature of 1907.)	$	$ 125.00
Feb.	25—To Gilmore Davis Co., repairing and varnishing desks of Department	31.50	

1909.			
Mch. 8	—To Remington Typewrtr. Co., half dozen ribbons	3.50	
Apr. 26	—To Manufacturers' Record, subscription	4.00	
June 2	—To part of postage bill for May (see Postal account)	29.22	
June 3	—To Sou. Ex. Co., May bill	20.28	
		$ 88.55—	$ 125.25
			88.55
	Balance		$ 36.45

TRAVELING EXPENSES, COMMISSIONER OF AGRICULTURE.

1909.			
July 1	—By appropriat'n for last six months of 1909. (By Legislature of 1909.)...$	......	$ 125.00
Nov. 8	—To 1 mileage book L. & N. R. R., Pensa. Fair...	25.00	
Nov. 22	—To trav. expenses, official visit to Tri-County Fair at Pensacola, Nov. 8th to 12th............	13.30	
Nov. 23	—To 1 mileage book, 2 ct. rate, S. A. L. R. R......	20.00	
Dec. 6	—Expenses of attend'g Marion Co. Fair at Ocala, and on prison business.	17.30	
1910.			
Jan. 1	—By appropriat'n for year 1910 ....$	......	$ 250.00
Sept. 15	—To annual assessm't of dues as member of Inter-State Prison Congress..	5.00	

1910.			
Oct. 22	—Florida's portion of expenses in connect'n with the meet'g of the Southern States Association of Commissioners of Agriculture and other agricultural workers ..	35.00	
Nov. 8	—L. & N. Ry. System, for 1 mileage book, for B. E. McLin	25.00	
Nov. 15	—Expenses trip to West Florida Fair at Pensacola (Inter-State Fair).	20.85	
Nov. 22	—To 1 interchang'ble mileage book..............	20.00	
Nov. 29	—To expense of attend'nce on Marion Co. Fair, Nov. 23 to 27, inclusive......	15.40	
		$ 196.85—	$ 375.00
			196.85
Balance	....		$ 178.15

Printing Stamps and Tags, Agricultural Department.

1909.			
Jan. 1	—By appropriat'n for first six months of 1909. (By Legislature of 1907.)...$	......	$ 600.00
Jan. 18	—*To Am. Bank Note Co.:* To 1,000 sheets 100.100 Inspect'n Stamps and 1,000 sheets 100.100 Fertilizer Stamps....$	70.00	

1909.			
Jan. 28	—To 3,000 sheets 100.100 Inspection Stamps, 3,000 sheets 100.100 Fertilizer Stamps, 2,000 sheets 100.200 Fertilizer Stamps....	280.00	
Mch. 1	—To 2,000 sheets 100.200 Fertilizer Stamps, 2,000 sheets 100.000 Fertilizer Stamps....	140.00	
Mch. 16	—To 1,000 sheets 100.200 Fertilizer Stamps....	35.00	
May 22	—To American Bank Note Co., 2,000 sheets 100-lb. Inspection Stamps ...	70.00	
		$ 595.00—	$ 600.00
			595.00
	Balance		$ 5.00

Printing Stamps for Fertilizer and Stock Feed, Agricultural Department.

1909.			
July 1	—By appropriation for last six months of 1909 (by Legislature of 1909)$	......	$ 600.00
July 2	—To American Bank Note Co., 4,000 sheets Inspection and Fertilizer Stamps	140.00	
July 20	—To American Bank Note Co., 200,000 200-lb. Fertilizer Stamps	70.00	
Oct. 1	—To American Bank Note Co., 6,000 sheets Inspection and Fertilizer stamps	210.00	

1909.			
Nov. 27	—To American Bank Note Co., 200,000 100-lb Inspection Stamps.......	70.00	
Nov. 30	—To American Bank Note Co., 50,000 175-lb stamps	17.50	
1910.			
Jan. 1	—By appropriation for the year 1910 ....$	......	$ 1,200.00
Jan. 27	—To American Bank Note Co., 900,000 stamps ...	315.00	
Mch. 5	—To American Bank Note Co., 700,000 stamps	245.00	
Mch. 16	—To American Bank Note Co., 400,000 200-lb stamps	140.00	
Apr. 21	—To American Bank Note Co., 400,000 100-lb. stamps and 200,000 200-lb. stamps	210.00	
May 26	—To American Bank Note Co., Inspection Tax Stamp plate	65.00	
June 24	—To American Bank Note Co., 500,000 Inspection Stamps	175.00	
Sept. 2	—To American Bank Note Co., 400,000 Inspection Stamps	140.00	
Nov. 22	—To American Bank Note Co., 500,000 Inspection Stamps	175.00	
		$ 1,972.50—	$ 1,800.00
	By deficiency balance.......		172.50
			$ 1,972.50

Stationery and Other Contingent Expenses, Agricultural Department.

The following account was first authorized by the Legislature of 1909, beginning July 1st. The articles contained herein were formerly supplied by the Comptroller's Department, but from which they could not always be obtained when necessary.

1909.			
July 1	—By appropriation for last six months 1909...	$	$ 350.00
July 2	—To Capitol Publishing Co., 300 circulars on mixed grain	1.40	
July 12	—To the H. & W. B. Drew Co.	2.10	
July 21	—To Florida's portion of expense of printing proceedings of the meeting of the Association of Southern States Commissioners of Agriculture at Nashville in 1908	35.00	
Aug. 20	—To H. C. Davison & Co., N. Y., 1 dozen copying books	36.45	
Sept. 1	—To J. F. Hill, ribbon..	1.00	
Sept. 1	—To J. F. iHll, cash book	1.00	
Sept. 13	—To R. C. Davis & Co., stationery	86.20	
Sept. 13	—To Eagle Rubber Stamps Works	1.15	
Sept. 22	—To Remington Typewriter Co.	84.50	

1909.			
Oct.	11—To Gilmore & Davis Co., stationery and repairing office furniture, table, chairs, etc.	4.50	
Oct.	18—To subscription to Manufacturers' Record, Sept. 8, '09 to Sept. 8, '10	4.00	
Oct.	22—To Bucket of paste for use in mailing Bulletin	1.00	
Oct.	25—To S. A. L. Railway, freight on box envelopes from New York	2.58	
Nov.	1—To J. F. Hill, 1 ribbon, typewriter	1.00	
Nov.	8—To R. C. Davis & Co., stationery	37.82	
Dec.	1—To J. F. Hill	1.65	
Dec.	9—To Gilmore & Davis Co., 1 pair postoffice scales.	3.00	
1910.			
Jan.	1—By appropriation for year 1910 ....$	......	$ 700.00
Jan.	4—To freight and drayage on box of stationery, New York	2.73	
Jan.	6—To Remington Typewriter Co., 1 typewriter $91.00; ribbons, $12...	103.00	
Jan.	24—To H. Ohashi & Co., backing Sheets, 1 gross	13.20	
Feb.	2—To D. R. Cox Furniture Co., revolving chair	6.00	
Feb.	2—To E. W. Clark, 1 ream typewriter paper	1.25	

1910.

Feb. 14	—To Marshall, Bruce & Co., stationery, ass't...	73.20
Mch. 4	—To Marshall, Bruce & Co., stationery, ass't...	7.65
Mch. 4	—To E. W. Clark, 1 ream typewriter paper	2.50
Mch. 16	—To T. J. Appleyard, State Printer	6.50
Mch. 18	—To Freight and drayage on maps	10.59
Apr. 4	—To H. N. Sweeting, repairing adding machine	2.00
Apr. 4	—To H. & W. B. Drew Co., 1 ribbon for adding machine	1.00
Apr. 7	—To V. F. Balkcom, half dozen ink erasers..	3.00
June 2	—To J. F. Hill, 1 ink well	2.00
June 2	—To one quart ink	.75
June 16	—To S. A. L. Railway, freight on copying books	1.52
June 18.	—To E. H. Gross, repairing and cleaning typewriter	12.50
June 24	—To H. C. Davidson & Co., N. Y., 1 dozen copying books	36.45
June 28	—To freight on envelopes	3.13
July 1	—To U. S. Envelope Co., Holyoke, Mass	42.63
July 1	—To J. F. Hill, ink wells, $4.50; paper, $1.25	5.75
July 1	—To Gilmore & Davis Co., one table for typewriter	7.00

1910.

July 8	To Gilmore & Davis Co., for twine for wrapping packages	2.25
July 8	To T. J. Appleyard, 500 plain envelopes	1.50
July 8	To T. J. Appleyard, printing stationery, J. H. Jones	6.50
July 23	To Remington Typewriter Co., ribbons, asst.	24.00
Aug. 4	To T. J. Appleyard, 6,000 letter heads	21.50
Aug. 26	To H. & W. B. Drew Co., staples, clips, seals, etc.	14.25
Sept. 1	To freight and drayage on typewriter stand	2.06
Sept. 1	To T. J. Appleyard, 1 book for feed stuffs	10.00
Sept. 1	To T. J. Appleyard, 1 book for commercial fertilizers	10.00
Sept. 7	To subscription to manufacturers' Record to Sept. 8, 1911	4.00
Sept. 24	To T. J. Appleyard, 5,000 letter circulars to manufacturers and dealers in feed stuffs (1 page)	20.00
Sept. 24	To T. J. Appleyard, 5,000 4-page circulars to manufacturers and dealers in feed stuffs	35.00
Sept. 29	To J. Diamond, 1 typewriter cabinet	15.00

1910.			
Oct.	6—To Remington Typewriter Co., 29½ reams paper	27.48	
Oct.	6—To Remington Typewriter Co., 1 typewriter, exchange	51.00	
Oct.	24—To T. J. Appleyard, State Printer, binding two books	2.50	
Oct.	26—To subscription to the "Journal of the American Institute of Criminal Law and Criminology" for use in the Prison Department	3.00	
Nov.	5—To T. J. Appleyard, State Printer, cutting and supplying 5,000 Bulletin wrappers	3.75	
Dec.	10—To J. F. Hill, ink, 75c.; pens, $1.25	2.00	
		$ 904.49—	$ 1,050.00
			904.49
	Balance		$ 145.51

RECOMMENDATIONS FOR THE DEPARTMENT.

a. The State having entered upon a period of unprecedented development, the demands upon the Department of Agriculture for information on every subject that could be of interest to prospective settlers in the State, are so great that we find it impossible to furnish intelligent replies by letter or routine correspondence. It is important that the Legislature make some provision by reasonable appropriation in order that there may be compiled in pamphlet form, information concerning the resources of the various counties of the State in order that intelligent information may be given the inquiring public. I therefore most urgently request that the Legislature make an appropriation of at least $3,000.00 to be used by the Commissioner of Agriculture, as the head of the Bureau of Immigration, as is provided in the Constitution of the State of Florida, to be used by the said Commissioner in compiling, printing and distributing data that will give information from the standpoint of the State which will be regarded as authentic and of greater advantage towards inducing the best class of citizens to immigrate to Florida.

b. For several years the Commissioner of Agriculture has been having compiled from the records of the State and United States land offices, abstract or tract books, furnishing the original purchaser or entryman of each tract of land heretofore conveyed to any person, company or corporation by the different State Boards and by patent or grant from the United States Government direct. This I regard as one of the most important works that could be completed as a basis of information to any and all citizens who do now or may in the future become owners of real estate in Florida, whether through the State or the United States Government. Much of this work has been completed and is now in tract book form in regular record books in the land division of the Department of Agriculture. To abandon this work at this juncture would be, in my judgment, business suicide and the waste of much money heretofore expended in the preparation of the data for these record volumes. In addition to the benefit these records will be to the individual citizen, the completing of the work will make the land records of the State much more accurate and certain, as very many errors of the past are being corrected, and in this way making the land records as accurate as it is possible for human endeavor to make them. To this may be added the saving of much time in securing information in the State land office to be given in response to the many daily applications to this Department for information concerning the status of lands.

The work so far has been conducted at the expense of the fund in the hands of the Trustees of the Internal Improvement Fund. The work being for the benefit of the general public, the Trustees are not disposed to further place the burden upon the trust fund, hence, the importance that the Legislature appropriate direct, for the salaries of two of the clerks heretofore paid by the Trustees, to-wit: One clerk now engaged in the Land Department, at a salary of $125.00 per month, and one clerk in the United States Land Office at Gainesville, Florida, at a salary of $125.00 per month.

It is proper to state in this connection that this request does not add to the clerical force of the land division of the Department of Agriculture, but simply changes the method of payment of the two clerks at the same rate of salary that has been heretofore paid.

c. As the citizens of our State are learning that agriculture and horticulture are a science of as much importance as other lines of endeavor, they are reading more than ever in the past and are anxious for information from the State Department on subjects of interest to the farmers, hence the demand for our quarterly bulletins has grown to such proportions that it has been necessary for us to increase materially the number of bulletins to be printed as well as to furnish information on the various subjects of interest to the fruit, vegetable and general farming public, therefore, it is necessary to ask for an appropriation of not less than $2,500.00 to $3,000.00 per annum for the printing and distribution of our quarterly bulletins.

d. With the increased use of fertilizers, cotton seed meal and stock feed, the appropriation heretofore made for the purchase of inspection tax stamps has not been of sufficient amount to meet the necessary demands, hence, we have asked that the appropriation be increased to $1,800.00 per annum. I will state, in this connection, that from this source, the State derived as revenue during the years 1909 and 1910, the neat sum of $119,143.64. It is very evident that the Department of Agriculture does not come as a beggar, but simply asks that a part of the revenue it furnishes to the State Government be returned, in order that the Department may be more intelligently and efficiently conducted. This fund properly belongs to the Department of Agriculture, and is so recognized and used in all other States for the purpose of properly conducting the different divisions of the Department and for disseminating information to the citizens of the State and to those who wish information concerning the State.

e. One of the most valuable documents we send to inquirers for information concerning Florida, is our sectional State map, upon which each county is separately designated. Persons gathering information by reading concerning the State and the products of the different counties, write at once for a map that they may be able to locate in what counties of the State certain products are grown, hence, the daily demand upon the Department for our sectional State map. With the assistance of the Trustees of the Internal Improvement Fund, the Department has been able to maintain a limited supply of these maps until the meeting of the Legislature. We have a proposition from the Matthes-Northrup Map Company, to furnish us 10,000 of our maps for $1,020.00, or 5,000 for $620.00. The largest quantity will unquestionably be needed, and as a matter of economy, I recommend an appropriation of $1,020.00 to purchase 10,000 of these maps.

f. I regard it as a good paying policy for the State while realizing very high returns from the hire of State convicts and while lands are reasonably cheap, for the Legislature to make appropriation from the funds being derived from the hire of State prisoners to purchase lands and commence the equipment with proper and suitable buildings for the location and maintenance of our State prisoners upon farms. The appropriation could be made in definite amounts or by a general authority to the Board of Commissioners of State Institutions to use as much of the funds derived from the hire of State prisoners as in the discretion of the Governor, with the approval of a majority of said Board, might be deemed advantageous to the interest of the State. An appropriation of less than $100,000.00 would be insufficient to accomplish anything of a permanent nature.

AN OUTLINE OF THE DIFFERENT DIVISIONS OF THE DEPARTMENT OF AGRICULTURE AND THE CLERICAL FORCE EMPLOYED.

In order to give a proper conception of the varied Divisions of this Department, I cannot do better than to quote from the Constitution of the State, as I have done in a previous report.

Article 4, Section 26 of the Constitution, provides: "The Commissioner of Agriculture shall perform such duties in relation to agriculture as may be prescribed by law, shall have supervision of all matters pertaining to the public lands under regulations prescribed by law, and shall keep the Bureau of Immigration. He shall also have supervision of the State prison and shall perform such other duties as may be prescribed by law."

As indicated in the above Constitutional provision, we have the Agricultural Department proper with its various subjects ataching.

The application and enforcement of our fertilizer and stock feed laws and general supervision of the pure food and drug law.

The supervision and direction of the State Prison Department with its supervisors and physician, including a review of their numerous reports.

The Bureau of Immigration, the work of which we are expected to carry on without the assistance of a bureau or funds to be utilized in compiling and distributing the necessary information that should be given with State authority.

The head of the Department was originally entitled "Land Commissioner" and the Department was recognized as a Land Department only.

This, the Land Department, yet remains one of the important branches of the Department of Agriculture. While the acreage under ownership of the State has materially decreased, the inquiries concerning lands, the original entryman, etc., have grown in proportion to the interest in real estate in Florida. This division requires more clerical work than any other division in the Department. It has added to it the Field Note Division since the United States government abolished the office of United States Surveyor General of Florida.

The laboratory or State Chemist's Division entails considerable work in the way of correspondence which, from necessity, attaches to the head of the department.

In addition to the various divisions under the direction of the Commissioner of Agriculture and by virtue of his office, he is a member of the Board of Commissioners of State Institutions, which consists of the Governor and all of the Executive officers or heads of State Departments.

The Commissioner of Agriculture is also one of the five Trustees of the Internal Improvement Fund of the State, which requires much time and care.

The Commissioner of Agriculture, by virtue of the fact that he is the head of the State prison system, under the Constitution of the State, is required by law to act as one of the five members of the State Board of Pardons. This I regard as one of the most important positions the Commissioner is required to fill. Anyone with a proper conception of his responsibility to the State and its prisoners cannot but feel the weight of this important responsibility.

For carrying out these provisions the Commissioner of Agriculture is supplied the following clerical force:

First. The Chief Clerk in the Land Department, who is paid by the Trustees of the Internal Improvement Fund $150.00 per month.

The first assistant Clerk of the Land Department has been heretofore paid by the Trustees of the Internal Improvement Fund. The trustees being of the opinion that this clerk should be paid as other clerks are generally paid by Legislative appropriation, I have requested that the clerk be paid in this manner. His salary has been at the rate of $125 per month.

The third clerk in the Land Department represents the School Land Division and is paid by appropriation by the Legislature the sum of $100 per month.

Only one clerk is allowed the Department to perform the duties in connection with the Agricultural Department proper, which includes the compilation of all statistical data as well as furnishing information under the head of the Bureau of Immigration and is paid by Legislative appropriation $125 per month.

One clerk is allowed in connection with the Prison Department and is paid from the hire of State prisoners a salary of $125 per month.

For handling the stock feed, fertilizer and pure food and drug acts which carry with them all correspondence transmitted from the Laboratory or Chemist's Department as well as keeping the records of the inspection tax stamps and filling all orders in connection with same, we are allowed one clerk at a minimum salary of $100 per month, which is paid by Legislative appropriation out of the funds arising from the sale of inspection tax stamps.

One clerk at a salary of $125 per month paid by Legislative appropriation, has charge of the field note division of the Department.

We have in addition one stenographer who does not only the regular stenographic work, but other typewriting and clerical work that is found necessary to be performed, who receives a salary of $75 per month by Legislative appropriation.

There is also one clerk who has been heretofore for many years paid out of the Trust Fund in the hands of the Trustees of the Internal Improvement Fund, who works in the United States Land Office at Gainesville, Florida, which has been referred to in another part of this report and, as requested by the Trustees, should be paid by Legislative appropriation as clerks are generally paid for services in connection with the State. This clerk receives a salary of $125 per month.

While it is impossible to convey by a communication any proper conception of the volume of work necessary to the proper conducting of the different divisions of this Department, I submit the following data which may give some tangible idea of the work performed.

In addition to the volume of record work performed by the clerks in the different divisions, I find the following as an approximate estimate of correspondence, by letters only, for the last two years for the different divisions:

There have been written, approximately, in letters in the Land and Field Note Department, alone .. 22,396

Agricultural and Immigration Department and Bureau of Information	13,836
Fertilizer, Stock Feed and Pure Food Division	12,000
Prison Department	7,040
Miscellaneous	1,500

The above does not include duplicate or circular form letters.

The number of maps sent out for the year 1909 and 1910	12,500
Number of packages containing information in reply to inquiries concerning the State	12,500
Number of Express packages handled by the Department	1,185
Packages sent out by registered mail	1,450
Telegraph messages received and answered, approximately	225
Number of bulletins wrapped and addressed for mailing for the two years, approximately	64,000

The Department is allowed no special clerk for handling this large volume of printed matter and bulletins, which renders it necessary for the regular clerks often to work over time and even at night at these quarterly periods.

The clerk in charge of the stock feed and fertilizer division has sent out to the numerous manufacturers and dealers in fertilizers and stock feed, the grand total of some 7,260,413 inspection tax stamps. By reference to the tables in connection with this division, it will be found that the total revenue derived for the period of two years amounts to $119,143.64.

In this connection I wish to express my appreciation for the uniform loyal, energetic, and efficient manner in which the entire clerical force of this Department have co-operated with and assisted the commissioner in the conduct of the department in order that the people might have the most prompt and beneficial results in the administration of the official work.

For the convenience of persons desiring to obtain information on any one of the different divisions of this Department, we have furnished an index to the report which is placed in front of the report. It is so arranged as to call attention to the index on opening the volume as it is not usual for Department Divisions to have indexes to their reports.

DIVISION

OF

AGRICULTURE.

DIVISION OF AGRICULTURE.

When two years ago in our report for this division we made the statement that there had been greater "progress and development in the science of agriculture in the past ten years than in the twenty that preceded them," we believed we were stating about the limit of fact, but when we review the events of the past two years, and consider the tremendous development that has actually taken place within that time and is still growing in magnitude and importance, apparently without limit, we realize the extreme conservativeness of our statement. At that date, who could have foretold the future? What man would have dared the prophecy that unfolding events would disclose in so short a time such stupendous results?

When we remember that within the past two years nearly a million acres of land in one section of the State has changed ownership; that hundreds of thousands of acres have been practically reclaimed from a desert waste, and that literally thousands of acres of these lands as rich as any on the continent of North America have been settled upon or developed into productive and profitable farms, that consequent upon the advertising of this gigantic work, and the vast resources and possibilities for investment and speculation, as well as the acquisition of new homes suddenly disclosed to the thousands of people from other sections of the country where both extreme of climate and excessive values of lands made further living impossible, and the ownership of a home beyond hope, thousands of these home-seekers from other States and other lands have come into the State from all directions to all sections of it and have located either in small groups, singly or in colonies of varying proportions.

The magnitude and results of the events referred to and their effects upon the future no one can foretell. That which was termed "but a wild dream" and beyond the possibility of accomplishment, has been wrought into a magnificent reality. That the future has even more in store for our state, we cannot doubt. Our progress and advancement in the field of agricultural and industrial development during the past two years has attained a degree in the magnitude of the results undreamed of by the most enthusiastic.

Practically there is no limit to the capacity of our soils or our resources and possibilities for industrial development. Under continued improvement in methods of planting, manuring and cultivating the numerous crops the yields have been increased many fold. It is not uncommon for the grower of such crops as lettuce, celery, cauliflower, tomatoes, etc., to receive from three to five hundred dollars per acre net, and in many instances with some crops as high as eight to twelve and even fifteen hundred dollars per acre is received. Under old time methods such yields would have been imposible; nor are these methods alone practiced in the production of vegetable crops, the same improvements have been and are being rapidly extended into the cultivation of the standard field crops, as cotton, corn, oats, velvet beans, cowpeas, etc. Great assistance is being given the farmers of the State through the Farmers' Institute and a system of farm demonstration work through the direct assistance of the United States demonstration agent and his deputies in various counties. The results in the work of these several agencies have been so successful as well as surprising that thouands, either wholly or in part, adopted new and better methods of farm practice. This Department has in every way possible added what it could to the betterment of all branches of farm work by correspondence and by the publication of bulletins on the growing of vegetables, fruits, nuts, or standard field crops, classification of soils and their adaptibility to the production of various crops, and the distribution of over 50,000 copies of them to persons in and without the state seeking the information they contained. And for future use and the benefit of thousands of those who will hereafter request the same information, we publish them elsewhere in this report as a small part of the work of this department in the cause of better agriculture and for the benefit of our people already citizens as well as those thousands who are continually writing us on these subjects with the object of becoming citizens of some portion of our State.

In our previous report we had something to say on the necessity of teaching agriculture in the common schools of the State. Whether our remarks had much or little to do with the end obtained, the result was exactly what we desired, and agriculture in its primary form is now a subject of study in our common schools. Why not enlarge upon the subject and provide for a still higher course and add something on the care of live stock? The Legislature of our State could perform no greater service to the people and the coming generations in particular. With the tremendous efforts and the vast amount of money expended in pushing to the fore the proffessions of every sort, why not make of agriculture a profession also? As a science and art it should give place to no other. It deserves to lead not follow.

Again, let us go farther. With the immense development that is taking place industrially in our State and the practically boundless resources and possibilities looming up in the near future a school of technology becomes a vital necessity to our young men. The progress of the age and the development of our resources demand it, if we would be just to our own and reap the reward the coming generation of our young men deserve. We will thus keep them at home to enrich our State through their knowledge and service made possible by the wisdom of our action in putting before them the opportunity. Let us have a technological institute. The State can afford it easily. It cannot afford *not* to have it. Why not divert, temporarily, a portion of the funds derived from the lease of convicts to the creation, construction and maintenance of such an institution? If crime is the result of ignorance and lack of knowledge by proper training and direction of the mind, is it not peculiarly fitting that the unfortunate violators of the moral and statute laws should thus contribute to the future betterment of their fellow men? The establishment of such an institution is one great step in this direction and the education of the young in the practical pursuits of human endeavor is one of the noblest and highest duties of the State.

For the benefit of those residents of other States who are contemplating removal to Florida we here make the suggestion that before they yield to the solicitations of real estate owners and land companies either within the State or from other States who either own and offer for sale direct or through representatives lands in this State, that they first visit the locality or section where the lands offered them are situated, or wherever they may feel interested, and personally investigate conditions, soils, locality, values, etc., as to whether they are suitable for the purpose in view, and are as represented. Do not buy or contract to buy from any company or individual, not even the State, till they have examined that which is offered them, or have had some well-recommended, competent person or friend already here to do so for them. Neither home seekers or investors can afford to do otherwise and be sure of getting what they are told they are getting or that which they want. Florida is a good country for the business man, the investor and the home seeker, but it is due to each of them and those dependent upon them that they exercise proper, common sense, business precaution.

The information necessary to determine the kind, character and volume of crops grown and marketed and their value is to be found in the tables of Agricultural Statistics further on in this report. By consulting these tables and other portions of this report, anyone can fairly determine the section of the State he or she prefers and choose the occupation preferred for future engagement.

The tradesman and mechanic or other person desirous of entering into or establishing some form of industrial business or occupation, or simply wishing information on the subject can obtain it as far as possible without personal investigation by referring to that part of this report further on, under the head of "Manufactures for the Year 1909." The following articles previously referred to will be of assistance and interest, particularly to the new settler as well as the prospective home seeker:

GENERAL CLASSIFICATION OF FLORIDA SOILS.

This article is necessarily general in scope and is intended to supply information on this important subject in a brief way to those seeking such information before coming to this State to make new homes. With no funds for immigration purposes, we are limited to small space in the Bulletin to supply that which every proposed immigrant wants and should have, and which we cannot give in any other way.

The average soil of Florida is sandy, mixed with more or less clay, lime and organic matter. The greater portion of the lands may be designated as pine lands, because of the pine timber which predominates. There are lands on which the timber is a mixture of pine, white oak, red oak, water oak, live oak, gum, bay, hickory, magnolia, cabbage palmetto, etc.; these lands are termed mixed hammock lands.

The general classification of soils is in the following order: First, second and third rate pine lands, and high hammock, low hammock and swampy lands.

The pine lands cover much the larger portion of the State, and the soil is apparently all sand, but such is not the case; over a greater portion of the State this sand is thoroughly mixed with small particles of shells, which contain carbonate of lime, other minerals and decomposed, finely granulated vegetable matter. It is true that Florida has her proportion of poor lands, just as have all other States and countries, but compared with some other States the ratio is very small. With the exception of a very small area of supposedly irreclaimable swamp lands, there is scarcely an acre in the entire State which cannot be made, under the wonderful influence of her tropical climate, to pay tribute to man's energy. Lands which, in a more northerly climate, would be utterly worthless, will, in Florida, for the reasons above stated, yield valuable productions.

FIRST-CLASS PINE LANDS.

First-class pine land in Florida is wholly unlike anything found in any other State. Its surface is usually covered for several inches deep with a dark vegetable mould, beneath which to the depth of several feet is a chocolate-colored sandy loam, mixed for the most part with limestone pebbles and resting upon a substratum of marl, clay or limestone rock. The fertility and durability of this character of land may be estimated from the well-known fact that in the older settled districts this kind of soil has been cultivated for as many as twenty years successfully in corn or cotton without a pound of any sort of fertilizer, and are still as productive as ever; practically, then, these lands are indestructible. It is on this class of lands that both truck and fruit growing is most successful, and which produces the finest quality of Sea Island cotton. It is also fine farming land and yields good crops under ordinary methods of cultivation. By the growing of leguminous plants these soils and all other pine lands can be continually kept in a high state of fertility.

SECOND-CLASS PINE LANDS.

The second-class pine lands, which make up the largest portion of lands, are practically all productive. They are not hilly, but for the most part undulating in their surface. In some places, however, these elevations amount to hills. Some of these hills in Hernando County are regarded among the highest points in the State. Underlying the surface of clay, marl, lime rock and sand. These lands, from their accessibility and productiveness, the facility of fertilizing with cattle penning and the impression of their greater healthfulness than hammock lands, have induced their enclosure and tillage, when the richer hammock lands were near by, but more difficult to prepare for cultivation.

Some of these lands have no regular compact clay under them, or, at least, not in reach of plant roots. This fact is taken frequently as an evidence against them, since the popular prejudice is decidedly in favor of a clay subsoil, This objection, if it really be one, is taken for more than it is worth, for clay proper, or alluminum, as the chemists call it, is not food for plants. Its uses to the plant are purely mechanical. It serves as a reservoir for the storage of moisture in times of drought, as well as to hold firmly the roots of the growing trunk, but not to feed the hungry or thirsty plant. Sometimes it has been found in small quantities in the ash of woods, but this is because the rootlets take up more or less of whatever salts are in solution about them, and clay has been taken up in this way, just as poisons may be taken up; for trees are sometimes killed by pouring poisonous liquids about their roots, but clay never makes any part of the organism of plants, nor is it numbered among the elements which contribute to their growth.

Also a well-established fact as to the value of a clay subsoil is, that without its presence the applied fertilizers will leach through and be lost. The fertilizers used are generally lighter than the soils to which they are applied, or than the water coming down from the clouds. As the rains fall some of these fertilizers are carried down, after a time of drought; as the soil fills they are borne upward again by the waters to the surface, and both as they go down and come up, whether they be liquid or gaseous, the humus of soils has a strong absorbing affinity, for them and readily appropriates and retains them for the uses of the plant when the superabundance of water has passed away. But if the soil is not filled to the surface, so as to bring back directly any fertilizer in solution that was carried down, it is safer there in the subsoil than on the steep hillsides of clay, where what is applied is frequently carried away by the floods, together with the soil, to the vales below. Whereas, what has gone down in the porous soil is brought back by the capillary attraction of the surface soil in time of drought to the reach of the growing crop. One of the uses of drought is that it thus brings up from the subsoil, with the assistance of shallow cultivation, any minerai food that may be there to where it will be in reach of the growing crop.

But light, sandy soils, though they may produce freely at first, soon give way, and this fact, for frequently it is a fact, is regarded as conclusive as against loose and porous subsoils, whereas it only proves that these light soils were not sufficiently supplied with humus and the limited supply soon exhausted. Such lands can easily be restored to their original fertility by the use of leguminous plants, rotation of crops and careful cultivation; in fact, by such means they can be vastly improved over their original condition.

THIRD-CLASS PINE LANDS.

Even the lands of the "third rate," or most inferior class, are by no means worthless under the climate of Florida. This class of lands may be divided into two orders; the one comprising high, rolling, sandy districts, which are sparsely covered with a stunted growth of "black jack" and pine, and, near the lower east coast, scrub hickory and gualberry shrubs. It is also on much similar soils along the east coast that the finest pineapples are produced; the other embracing low, flat swampy regions, which are frequently studded with "bay gauls," and are occasionally inundated, but which are covered with luxuriant vegetation, and very generally with considerable quantities of valuable timber. The former of these, it is now ascertained, is also well adapted to the growth of Sisal Hemp, which is a valuable tropical production. This plant (the Agave Sisalana), and the Agave Mexicana, also known as Maguey, the Pulque Plant, the Century Plant, etc., have both been introduced into Florida, and they have both grown in great perfection on the poorest lands of the country. As these plants derive their chief support from the atmosphere, they will, like the common air plant, preserve their vitality for many months when left out of the ground.

The second order of the third-rate pine lands are not entirely worthless, as these lands afford fine cattle ranges and in some localities large tracts of timber adapted to the manufacture of naval stores and milling purposes.

Just here we feel that it is not out of place to say a few words concerning the topography and influence of these lands on the health of the inhabitants thereon. A general feature in the topography of Florida, which no other country in the United States possesses, and which affords great security to the health of its inhabitants, is that the pine lands which form the basis of the country, and which are almost universally healthy, are nearly everywhere studded, at intervals of a few miles, with hammock lands of the richest quality. These hammocks are not, as is generally supposed, low, wet lands; they never require ditching or draining, they vary in extent from a few acres to many thousand acres; hence, the inhabitants have it everywhere in their power, when desired, to select residences in the pine lands, at such convenient distances from the hammocks as will enable them to cultivate the latter without endangering their health, if it should so happen that the hammock lands appeared to be less healthy than the pine lands.

Experience in Florida has satisfactorily shown that residences only half a mile distant from cultivated hammocks are entirely exempt from malarial disease, and those who cultivate these hammocks and retire at night to pine land residences maintain perfect health. Indeed, it is found that residences in the hammocks themselves are generally perfectly healthy after they have been one or two years cleared. Newly cleared lands are sometimes attended with the development of more or less malaria, a fact that, under similar conditions, is no more peculiar to Florida than any other State. In Florida the diseases which result from these clearings are generally of the mildest type of bilious fever.

The topographical feature here noted, namely; a general interspersion of rich hammocks, surrounded by high, dry, rolling, healthy pine woods, is an advantage which no other State in the Union enjoys; and Florida forms, in this respect, a striking contrast with some other Southern States whose sugar and cotton lands are generally surrounded by vast alluvial regions, subject to frequent inundations, so that it is impossible to obtain, within many miles of them, a healthy residence.

At first thought it would seem improbable to many people that the malarial diseases of Florida (abounding in these rich hammock lands and exposed to a tropical sun), should so generally be of a much milder form than those which prevail in more northern latitudes. But such, however, is the fact. It is suggested in explanation of this fact, that the luxuriant vegetation which, in the Southern and Middle States, passes through all the stages of decomposition, is, in Florida, generally dried up before it reaches the stage of decomposition, and that, consequently, the quantity of malaria generated is much less than in climates more favorable to decomposition. This view is strengthened by the fact that the soil of Florida is, almost everywhere, of so porous and absorbent a character that moisture is seldom long retained on its surface, that its atmosphere is in constant motion, and that there is more clear sunshine than in the more northern States. It is further suggested that the uniform prevalence of sea breezes, and the constant motion of the atmosphere in the Peninsula, tends so much to diffuse and attenuate whatever malaria is generated that it will generally produce only the mildest form of malarial diseases, such as intermittent fever.

The lands which in Florida are universally denominated "rich lands" are, first, the "swamp lands;" second, the "low hammock lands;" third, the "high hammocks," and fourth, the "first rate pine, oak and hickory lands."

SWAMP LANDS.

The swamp lands are, unquestionably, the most durable rich lands in the State. They are the most recently formed lands, and are still annually receiving additions to their surface. They are intrinsically the most valuable lands, because they are as fertile as the hammocks and more durable. They are alluvial in character and occupy natural depressions, or basins, which have gradually filled up by deposits of vegetable debris, etc., washed in from the adjacent and higher lands. Drainage is indispensable to all of them in their preparation for successful cultivation. Properly prepared, however, their inexhaustible fertility sustains a succession of the most exhausting crops with astonishing vigor. These lands have been known to produce as much as 600 gallons of syrup, or about 5,000 pounds of sugar, per acre, without fertilizer. We mention sugar cane in this connection as showing the fertility of the soil, because it is known to be one of the most exhausting crops. It is not, however, quite fair to make this the measure of fertility of similar lands situated in different climates and countries, for we find on the richest lands in the State of Louisiana, the product of sugar is little more than about half what it is in Florida.

But this great disparity in the product of these countries is acounted for, not by any inferiority in the lands of Louisiana or Texas, but by the fact that the early visitations of frosts in both these States render it necessary to cut the cane in October, which is long before it has reached maturity, while in Florida it is permitted to stand, without fear of frost, till the last of November or December, or till such time as it is fully matured. It is well known that it "tassels" in South Florida, and it never does so in either Louisiana or Texas. When cane "tassels," it is evidence of its having reached full maturity. In consequence of the considerable outlay of capital required in the preparation of this description of land for cultivation, and from the facility formerly existing for obtaining hammock land, which requires no ditching or draining, swamp land has been but little sought after by persons engaged in planting in Florida until in recent years; now, however, there is a great and ever-increasing demand for these lands by individuals and incorporated companies, thus suddenly recognizing their immense productive value.

The greater part of what are known as swamp lands proper are mostly located in East and South Florida, although there are numerous and quite extensive bodies in North, Middle and West Florida.

THE EVERGLADES.

While the soils of this region differ little in their general characteristics, from the swamp lands above considered, still, owing to their prominence as such and as the greatest reclamation undertaking in recent times, also their unique geographical position, we submit a brief description under their own heading. These lands are being rapidly and successfully drained by the State, as well as by private and corporate owners.

"The Everglades of Florida cover an area of about 4,000 square miles, embracing more than half of the portion of the State south of Lake Okeechobee. The subsoil of this vast region is a coraline limestone. * * * Upon this surface lies an immense accumulation of sand, alluvial deposits and decayed vegetable matter, forming a mass of sand and mud from two feet to ten feet or more in depth, that overspreads all but a few points of the first strata."

"Upon the mud rests a sheet of water, the depth varying with the conformation of the bottom, but seldom at dry seasons greater than three feet. The whole is filled with rank growth of coarse grass, eight or ten feet high, having a serrated edge like a saw, from which it obtains its name of 'Saw Grass.' "

In many portions of the Everglades the saw grass is so thick as to be almost impenetrable, but it is intersected by numerous and tortuous channels that form a kind of labyrinth, where outlets present themselves in every direction, however, terminating at long or short distances in apparently impenetrable barriers of grass. The surface of water is quickly affected by rain, the alternate rising and falling during the wet seasons being rapid. The difference of level between highest and lowest stages of water is from two to three feet. The general surface of the Everglades was thus subject to great changes prior to the inauguration of the system of drainage now so successfully under way. Small keys, or, in reality, hammocks, are here and there met with, which are dry at all seasons; upon them the soil is very rich. There are many such. Undoubtedly they were often made the site of Indian gardens.

Large areas, covering many square miles, which but a few years ago were marshes covered with saw grass and rushes, are now open meadows, dry all seasons, excepting the rainy months, affording pasture for many thousand heads of cattle. The fall or rapids at the heads of all streams running from the Glades have receded towards the center of the Glades and Lake Okeechobee several miles.

The Florida Everglades at present may be described as a wet prairie, being a strip of land about one hundred and fifty miles long by fifty-five miles wide, and lying between the pine and swamp lands which have grown over two reefs of rock running parallel with each other from North to South. No rivers penetrate into the Glades beyond these rock reefs on either side and the land is very level, being composed chiefly of muck and sand lying in a basin with a rock bottom. The annual rainfall over this territory averages nearly sixty inches. It has for this reason, and because this rainfall has no other outlet over these reefs, been and is too wet for cultivation. The muck which overlies the sand and rock varies from about two feet on the edge of the Glades to a depth of twenty feet in the middle, and would average over the whole territory a depth of between six and eight feet. The land is free from trees and stumps, and almost free from bushes; the item of clearing being of no consideration whatever, simply requiring mowing down the grass and burning it, when the soil is ready to be tilled, as soon as the excess water is run off by the drainage canals.

The soil, as compared with other portions of the country, taking into consideration its natural richness, location and climate, is more valuable for agricultural purposes than any that is known, being particularly adapted to the growth of cane, cotton, Irish potatoes, celery, tomatoes, cabbage, turnips, beets, onions and, in fact, any crop will grow well on these lands except such as require a colder climate.

The composition of the soil being almost entirely decomposed vegetable matter, is rich in nitrogen, but lacking to a great extent in the mineral constituents necessary to make a perfect soil; consequently, phosphoric acid and potash will have to be supplied in varying quantities for a majority of crops, in some of these muck soils, especially where rock or clay is absent or too far below the surface to exert any appreciable influence. With these additions, when necessary, however, these soils will, without doubt, be the most productive in this country, and the equal of any in the world. Without the addition of the chemical fertilizers mentioned, these soils will not equal in productiveness the first grade of swamp lands.

LOW HAMMOCKS.

Low hammocks, which are practically swamp lands, are not inferior to swamp lands proper, in fertility, but are considered not quite so desirable. They are mostly level, or nearly so, and have a soil of greater tenacity than that of the high hammocks. Some ditching is necessary in many of them. The soil in them is always deep. These lands are also extremely well adapted to the growth of cane, corn and, in fact, all vegetable crops, nor are these soils as subject to the effects of prolonged drought as higher lands. There is not nearly so large a proportion of low hammock as there is of swamp lands.

HIGH HAMMOCKS.

High hammocks are the lands in greatest favor in Florida. These differ from low hamocks in occupying higher ground and in generally presenting an undulating surface. They are formed of a fine vegetable mould, mixed with a sandy loam, in many places several feet deep, and resting in most cases on a substratum of clay, marl or limestone. It will be readily understood by anyone at all acquainted with agriculture that such a soil, in such a climate as Florida, must be extremely productive. The soil scarcely ever suffers from too much wet, nor does drought affect it in the same degree as other lands, owing to its clay subsoil. High hammock lands produce with but little labor of cultivation all the crops of the country in an eminent degree. Such lands have no tendency to break up in heavy masses, nor are they infested with weeds.

To sum up its advantages, it requires no other preparation than clearing and plowing to fit it at once for the greatest possible production of any kind of crop adapted to the climate. In unfavorable seasons it is much more certain to produce a good crop than any other kind of land, from the fact that it is less affected by exclusively dry or wet weather. It can be cultivated with much less labor than any other lands, being remarkably melow, and its vicinity is generally high and healthy. These reasons are sufficient to entitle it to the estimation in which it is held over all other lands.

Some of the counties in Middle Florida, Gadsden, Leon, Madison and Jefferson, and Jackson, Holmes and Washington Counties, in West Florida, have large areas of fine high hammock land, underlaid with a stiff clay. These are the best lands of the State for the growth of short-staple cotton and are, indeed, the cream of the State for general farming purposes. They are of the earliest formation of the Florida lands. As before stated, areas of these lands in varying extent are found in every section of the State, in almost every county.

Some of the largest bodies of rich hammock land in East Florida are to be found in Levy, Alachua, Columbia, Marion, Hernando, Citrus, Pasco and Sumter Counties. There are in Levy county alone not less than one hundred thousand acres of the very best description of lands adapted to sugar cane culture, and there is but a small proportion of any of the counties, here mentioned, that will not produce remunerative crops of short-staple and Sea Island cotton without the aid of manure.

The first rate pine, oak and hickory lands are found in pretty extensive bodies in many parts of the State. From the fact that these lands can be cleared at much less expense than the swamp and hammock lands, they have generally been preferred by the small farmers and have proved remarkably productive.

Prairie Lands.

There are, besides the lands already noticed, extensive tracts of prairie lands, which approximate in character, texture of the soil, and period and mode of formation, to the swamp lands, differing only in being practically destitute of timber. Some of these lands are, however, extremely poor and non-productive, owing mostly to a substrata of hardpan, clay, which is impervious to moisture and impenetrable alike to the roots of fruit trees or plants. When the hardpan comes as near to the surface as, say, seven or eight feet, the growing of citrus fruit trees is not advisable. When it comes no nearer than, say, four feet, and surface drainage is good, vegetable growing can be made sucessful with proper cultivation and fertilization. The most of these lands afford excellent pastures during the greater part of the year. In fact, it is this class of lands that make up the great cattle ranges of the State, on which hundreds of thousands of cattle thrive the year around. These lands are found in tracts of varying extent in every section of the State, but in Southern Florida, in Southern Hillsborough County; in Manatee, in the great Myaka River prairie region, in southern Polk County, and in DeSoto, Osceola, Brevard and Lee Counties, which include the Alifia, Kissimmee and Caloosahatchie River valleys, is found the greatest grazing region east of the Mississippi River. The climate is perfect, never cold enough to kill the grasses, which grow as green in January as in June, and where water is in bountiful supply at all seasons of the year.

EASE OF CULTIVATION.

Perhaps the most attractive feature peculiar to the soils of Florida is the ease with which they can be cultivated as compared with stiff, heavy soils of other States, while quite as fertile. Another is that the greater part of the farm labor and tillage can be, and much of it is, performed during those months of the year when the ground further north is frozen. Still another peculiarity is, that fertilizers can be applied to greater advantage, because the fertilizing material will remain in the soil until the stimulating chemical ingredients are assimilated and absorbed into the earth and are not carried away by washing rains, as they are in broken or mountainous countries, and also because the porosity of the soil enables the atmosphere, through oxidization, more readily to aid the fertilizers in the work of decomposing the minerals of the soil, thus setting free the food elements they contain for the use of the growing crops.

THE CITRUS GROVE, ITS LOCATION AND CULTIVATION.

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CITRUS CULTURE.

CHOOSING A LOCATION.

The character of Florida soils is variable to a considerable extent. Even in the same vicinity various kinds of soils may occur. These vary from a clay to loamy, sandy, and marly soils. Some of them, also, are muck soils.

Clay Soil is one of the best for citrus-growing when it is found in a warm region. Less fertilizer is required and the trees are productive, bearing an unusually fine quality of fruit if the soil is properly handled.

Loaming Soil.—This is the character of the soil that is most largely employed for citrus-growing and with best results Elsewhere this soil might be referred to as sandy loam. It contains a considerable admixture of clay and organic matter, with a large body of sand.

Sandy Soil, or sandy land as it is often called, is usually free from a perceptible admixture of either vegetable matter or clay. For the most part it tends to be lacking in water and fertilizer-holding power. When it is almost pure sand it appears white, and is usually considered an unfavorable soil.

Marly Soils occur in some sections. After a considerable amount of humus has been worked into the stiff marl, they make good soils for citrus trees. In their original state, the marly soils are apt to produce an indifferent growth in the young trees, usually causing them to suffer more or less from dieback, scale insects, and other such disorders. This condition, however, passes off as the soil becomes more thoroughly tilled and has more vegetable matter incorporated in it.

Muck Soils are not the ideal soils upon which to plant citrus trees, since they are inclined to be sour, to produce an exuberant growth, and for a number of years to give rough and imperfect fruit. After muck lands have been cultivated for a number of years and brought into a thorough state of tilth, they produce excellent crops of citrus fruits, unless the mucks remain raw in form and contain a considerable amount of humic acid.

THE NATURAL GROWTH AS AN INDEX.

Hammock.—It is in our native hammocks that the wild citrus groves occur. In some regions thousands of trees have been transplanted from these old native groves to higher lands. In other places the hammocks were cleaned up, leaving the orange seedlings standing, to be budded over to the better varieties. These wild trees were always found to be the sour orange. At the present time the hammock lands are regarded as the ideal ones for citrus culture. The great cost necessary to clear these up thoroughly has in many cases deterred people from making use of them.

Rolling Pine.—The higher pine lands, more or less rolling, upon which long-leaf pine trees are growing, give us some of the best citrus lands we have in the State. These lands are easily cleared, and quickly brought into service for setting out to citrus trees. They are usually sufficiently drained naturally to permit the citrus groves to grow off promptly and produce a lot of fine fruit. They are less desirable than the hammocks, on account of requiring a larger amount of fertilizer to bring the trees into bearing. After years of cropping, however, they will require little or no more fertilizer than the adjacent hammocks.

Cabbage Palmetto Hammock.—These hammocks differ from the hammocks proper in that they are usually more or less covered with water for a part of the year. .The cabbage palmetto is the predominating tree. Wherever the land is high enough above the adjacent water, these lands may be drained and brought into service for citrus culture. When properly handled, they make among our best citrus groves.

Shell Hammock.—These differ from the other forms of hammock in that the soil is composed, to a greater or less degree, of shell. The trees usually grow off promptly and make a good showing, but sooner or later are apt to be affected severely with dieback; and while in many cases most excellent fruit is raised on shell hammocks they require a special and careful treatment. This character of land may safely be used by those who are expert in handling citrus trees.

Drained Lands.—Lake beds and other lands, sometimes called *prairie,* that are high enough to permit of thorough drainage, have been used to a considerable extent for planting to citrus. In these lands it is purely a question as to whether they are sufficiently high to permit of thorough drainage during the rainy portion of the year.

Pine Land, With Oak Undergrowth.—Some of the pine land, frequently called second-grade pine land, especially that which has a considerable undergrowth of scrub oaks, must be looked upon with some suspicion. Where clay is found within two or three feet from the surface, this character of soil can be safely employed for locating a citrus grove, but where the sand is very deep it will be preferable to choose a location elsewhere.

Flatwoods.—This character of land is usually level and more or less covered with water during the rainy season. As a rule, a hardpan occurs from a few inches to a few feet below the surface. This prevents rapid and thorough drainage. Saw palmettoes are usually absent or scattered on this character of land. The predominating undergrowth is gallberry. By hardpan, we should understand a more or less impervious stratum occurring in the soil at a depth of a few inches or a few feet. It obstructs the passage of water downward, and also obstructs the downward progress of the roots, causing the soil to become water-logged during the rainy period, and probably very dry during a period of drought. This hardpan may be made up of various matters, either calcareous, siliceous or ferruginous. The cementing material usually breaks up and lets the sand fall apart when exposed to the air. If the hardpan is of a ferruginous nature, it is more or less poisonous to citrus trees. Various methods have been adopted for bringing into cultivation land that has a hardpan under it. Sometimes this hardpan has been broken through by means of plowing. In such cases the hardpan was near the surface and in a thin layer. In other cases, the surface soil has been mounded up so as to put the trees on ridges. In a few cases the hardpan has been broken by discharging dynamite under the trees. Iron salts as they normally occur in the soil have a yellowish or reddish color. Where these colors occur, the darker colored iron hardpans are not likely to be present, consequently it is sometimes concluded that a reddish or yellow soil indicates one especially favorable for agricultural purposes. These flatwoods lands, when thoroughly and deeply drained and the hardpan broken, make a fair place for producing citrus fruit.

Spruce-Pine Land.—The spruce-pine land, as well as the scrub-oak land, should not be employed for citrus-growing at the present time. Splendid citrus orchards occur on lands of this kind, but they have been brought out by experts and at the cost of much more than would have been necessary on lands better adapted for citrus-growing. In addition to this, these lands produce trees that are subject to many disorders.

SITE OF THE GROVE.

Immediately upon deciding that one wishes to plant a grove, he should select the best site that can be procured. A great many questions arise in determining where a grove shall be located. A few of these are discussed below.

Distance From Transportation Line.—The ultimate object being the selling of fruit at a remunerative figure, it becomes necessary to locate a grove within a reasonable distance of some line of railroad or water transportation. The distance which it will be profitable to transport fruit by wagon will depend largely upon the condition of the roads.

Another determining factor in the matter is the cost of the land. A grove of moderate-sized trees, heavily loaded, should produce a thousand boxes of oranges to the acre. Allowing fifty boxes to a load, this would require twenty trips to the transportation station. If a grove were located three miles away from the station, it would probably take one man with a two-horse team six days to haul this fruit. If located one-half that distance, it would require only three or four days. Allowing about $4 a day for this work, the hauling of the fruit from the more distant grove would increase the cost about $8 per acre, which amount must be charged as an annual tax. From this the intending purchaser can readily calculate how much more he can afford to pay proportionately for land in close proximity to the railroad station.

Frost Protection.—There are no parts of Florida that are entirely free from occasional frosts, and in some parts of the State freezing weather may be expected to occur during every winter. There are a few isolated places, however, that are so favorably located that freezing weather is of rare occurrence.

Under ordinary circumstances, a drop in temperature to 28 degrees and a continuation of this for several hours will not freeze citrus fruit. If, however, the drop goes lower, say to about 26 or 25 degrees, serious damage is apt to result, especially if it is long continued. A drop in temperature of 24 degrees is not likely to prove seriously damaging to trees unless it is of continued duration. Trees in a thoroughly dormant condition will pass through a temperature of 18 degrees without the loss of much wood, but, as a rule, a considerable amount of foilage is lost at that temperature. This, however, varies with different varieties and with the conditions of the tree and the duration of the cold. Even if it does go to freezing, a sudden drop in the temperature and a continuation of it for a number of days proves rather disadvantageous to the health of the citrus grove. It is, therefore, very desirable to have some form of protection against cold.

Water Protection.—Water protection proves to be one of the best shelters against occasional cold days in winter. It has been found that regions located in large bodies of water, or with a northern, eastern and western protection of water, are much less subject to drops in temperature than those that are exposed. Quite a number of such places may be found as far north as 29 degrees 45 minutes of latitude. Even north of this region some fine groves occur that have been protected by artificial means. Farther south, at about the 28th parallel of latitude, a number of locations have been found where water has protected the trees, and in some cases even the fruit, against the most severe cold that we have had.

Hammock Protction.—Quite a number of citrus growers in the State have found that hammock protection is quite as feasible as water protection. By locating in a large hammock and securing the surrounding lands, citrus growers have cut out small tracts in the hammock varying from five to ten acres in extent and planted these in citrus trees, leaving these small groves entirely surrounded by hammock trees. To make such a plan practicable, it is necessary to own the surrounding hammock; otherwise, one would have no control over the hammock trees which he wishes to use as protection against cold.

SHELTER FROM SEA WINDS.

Around the coast of Florida the bleak sea winds are damaging to citrus trees and citrus fruits. The direct influence of the sea breezes is to cause the atmosphere and soil to become dry. This stunts the grove and in some cases makes it absolutely impossible for the trees to attain a size that will enable them to bear a profitable crop. In some cases, where groves have been planted in such exposed places, it has become necessary to erect an artificial windbreak. This being built ten or twelve feet high, affords the first row protection against the sea breezes. Each row then successively forms a protection for the succeeding row.

In addition to the direct influence of the sea winds, we also have the indirect effect in causing the fruit to become torn, scratched, bruised, or otherwise mutilated, and unfit for market purposes. The foilage, and especially the rapidly growing young shoots, are likely to be seriously damaged by mechanical injury from the sea winds. Where it becomes desirable to plant a grove within the influence of the sea winds, it is very important that a strip of hammock should be left as a wind protection. If this is not available, a protecting row of trees should be planted. The native bay tree resists the influence of the sea winds well, but probably a much better tree for the purpose is the camphor.

PREPARING THE LAND.

Clearing the Field.—In preparing for a citrus orchard, it is important that all native trees, stumps and other material should be removed from the soil. A few cabbage palmettoes may be left for nurse trees for some time, but there should not be a large number, certainly not more than one hundred to one hundred and fifty to the acre, and, of course, all of those occurring in the rows where trees should stand ought to be removed. Liveoaks and especially pines are found to be very injurious to the growth of citrus trees.

It is not impossible for a person to make a good grove in a field that is full of stumps and debris. The chances, however, are much against his making a success. He would be the exception to the rule if he did so.

Breaking and Plowing.—After the field has been thoroughly grubbed and freed from all obstructions in sight, the next important step is to plow the land thoroughly. During this operation a large amount of roots and underground trash will be turned up. This should be removed and burned. Weeds, grass and stuff that will decay rapidly can be left on the ground and be plowed under to good advantage. It is important to have a large plow and sufficient horse power to do the work thoroughly. A fourteen or sixteen-inch plow, or, better still, a thirty-inch disc plow, will be found useful.

Previous Cropping.—Most people who are intending to put out a citrus grove become impatient for a crop and, consequently, are too much in a hurry to plant trees. The severe change that has taken place on the land by the removal of the forest and the burning of the stumps has set up a disturbance in the soil. The land, therefore, is in most cases unfit to receive anything but the most vigorous plants. If the field is prepared in time to be planted to a crop of vegetables, this is highly advisable. These vegetables will be less affected by the adverse conditions than are the citrus trees, and even if they should be adversely affected it would mean only the loss of one crop and would not be communicated to the succeeding years. If the season is not a proper one for planting out vegetables, the field may be planted to some farm crop, especially a cover crop, such as velvet beans, cowpeas or beggarweed. If a good crop of velvet beans has been grown upon the soil, we are pretty certain to have it in first-class condition for setting out to citrus trees. In addition to putting the soil in good condition, the velvet beans will add a large amount of ammonia to the soil, requiring less of this element in the fertilizer to be applied to the trees when set out.

Catch Crops.—During the succeeding year vegetables and farm crops may be profitably planted between the rows of citrus trees. One should, however, not lose sight of the fact that the citrus orchard is the main project under consideration, and that these catch crops must be removed or entirely destroyed if they in any way interfere with the health and growth of the citrus trees. After the vegetable crop has been removed from the citrus grove the middles may be planted to velvet beans, cowpeas or beggarweed. These plants will continue to add ammonia to the soil, prevent leaching by heavy rains and finally return to the soil a large amount of humus, which is very much needed to produce growth and health in citrus trees. It is, however, entirely possible to get so much organic ammonia in the soil as to cause dieback in the small trees. When this occurs, the planter loses from one to two years' time in the growth of his trees.

Perfect Drainage Necessary.—One of our foremost agriculturalists in the State has said that there is not an acre of land in the State of Florida that does not need draining; that even the steep clay hillsides would be improved by being underlaid with tile drains. Our general experience has been that when people speak of land as being perfectly drained they mean that it is perfectly drained during the dry part of the year, and forget altogether about the rainy part of the year, which is the critical season. A grove site should be so perfectly drained, naturally and artificially, as to never allow the soil water to stand above two feet from the surface at any time. Several instances are known where groves located on the top of a hill, seventy-five feet above a lake, had standing water in the soil during the rainy season. Such trees as are within the influence of this water necessarily becomes weakened by the exclusion of oxygen and interference with the bacterial life in the soil. For the orange grove as a whole, surface drainage appears to be the cheapest and most profitable. Tile drains are likely to become clogged by citrus roots, and much damage may result before the grower recognizes the defect,

Irrigation.—While much good can be done by conserving the moisture in the soil, occasional years occur, however, when the drought becomes so severe that if one had an irrigating plant the advantages derived from it would be sufficient to pay for the whole outfit; and during about three years out of five a sufficient number of droughts occur to make a good irrigating plant very desirable. The type of plant to use depends very much upon one's own inclinations and the amount of money he has to spend. Furrow irrigation, as practiced in California, is entirely practicable and has been used to some extent in Florida. This is the cheapest method, and the one which will doubtless be generally adopted.

CULTURE PROPER.

Object.—Too many grove owners look upon cultivation in the light taken by a certain colored boy, who, when asked what he was cultivating for, replied: "Seventy-five cents a day." During a money stringency the first thing the grove owner does in many cases is to cut down the amount of cultivation. We cultivate an orange grove to admit air into the soil, as a first requisite, to keep up the bacterial life; and, secondly, to conserve the moisture present.

Germ Action.—Plants in general take up the ammonia in the soil in the form of nitrates. These nitrates, to a large extent, are formed from broken-down vegetable matter. They are prepared by the organisms constantly present in the soil. Nearly all of our fertilizers applied to the trees must go through this breaking down process. Possibly the only exception to this is when we use nitrate of soda and nitrate of potash. To secure the best results the nitrifying bacterial must be present in the soil in sufficient quantity. The temperature of the soil must range somewhere between 40 and 130 degrees F., the most favorable soil temperature being about 98 to 99 degrees. A reasonable amount of moisture is necessary, and there must be a free circulation of air. The nitrates are most rapidly formed in the soil near the surface, especially in the first six inches. The depth at which the largest amount of nitrates are formed varies with the condition of the soil. From this it will be seen that nitrates are forming rather rapidly in our soils during almost the entire year.

Conserving Moisture.—Another important reason for cultivating is to conserve the moisture of the soil. To make the fertilizer applied available to the plant, it becomes necessary for these substances to be placed in solution. In the absence of moisture in the soil the fertilizer applied to the grove will be as useless as if left in the bag. On the other hand, if too large an amount of moisture be present, the plants are unable to get a sufficient amount of the chemical elements in the water that is being absorbed. Conservation of moisture by cultivation is best accomplished by using some light implement that will work rapidly over the soil, breaking the crust or stirring the already loose surface soil, forming what is usually spoken of as the soil mulch. The appended table shows the effect of cultivation and non-cultivation on lands that would be considered fairly good citrus lands. During the year when these tests were being made there was a very great deficiency in the rainfall; in fact during the four months following the first of January, there was only one rainfall that amounted to enough to wet the soil:

MOISTURE IN CULTIVATED AND UNCULTIVATED LAND.

	April 18, 1908.		April 24, 1908.	
Cultivated—	Percentage.	Tons per acre.	Percentage.	Tons per acre.
First foot	5.35	107.0	4.71	94.2
Second foot	5.73	114.6	5.67	113.4
Third foot	5.17	103.4	5.28	105.6
Fourth foot	4.94	98.8	4.95	99.0
Totals	....	423.8	....	412.2
Uncultivated—				
First foot	2.81	56.2	2.91	58.4
Second Foot	3.17	63.4	3.20	64.0
Third foot	2.92	58.4	2.99	59.8
Fourth foot	2.83	61.6	3.19	63.8
Totals	....	239.6	....	246.0

Cultivated land, average ....418.0 tons
Uncultivated land, average ....242.8 tons.

Diff. in favor of cultivated land . 175.2 tons of water,
or 1½ in. of rain.

The above table shows that an amount of moisture equal to one and one-half inches of rainfall may be conserved by plowing and cultivating.

Increasing Humus Content.—The humus is the dark-colored material which occurs in practically all soils to a greater or less extent. Sandy soils almost devoid of humus are very white. When a large amount of humus is added to such a soil, it takes on a dark color. Our pure muck or peat beds may be said to be pure beds of humus, though the decaying vegetable matter at this period of its transition is not usually spoken of as humus, but rather as peat. In the next stage of its decay it takes on more of an earthy character, and is then spoken of as humus. All forms of animal and vegetable matter take this form before changing into distinctly inorganic substance. Large roots, roots of crops, stalks of crops, and similar growth, are useful in increasing the humus of the soil. The most useful of our humus-supplying plants are the legumes. Foremost among these is the velvet bean. Cowpeas and beggarweed are also excellent for citrus groves.

Humus in the soil improves its mechanical condition by making a compact soil looser and more permeable to the roots of the plants. It gives the leachy soil a water-holding capacity and, therefore, a capacity for holding plant-food, especially such as has been supplied in the form of fertilizers. It furnishes a convenient location and food for the useful micro-organism which prepare the fertilizers for the citrus trees. In adition to the above advantages an increase in the humus content of the soil increases the soil warmth.

From what has been said in the foregoing paragraph, it should not be considered that humus is an unmixed blessing. Too large a supply of humus in a grove will cause dieback, and in a fruiting grove it is likely to produce what the orange growers properly know as *ammoniated* fruits, as well as dieback. Consequently, the citrus fruit grower must not attempt to push his trees too rapidly, and must also be careful to have his soil thoroughly drained (drainage for the rainy season), in order that the life processes in the soil may go on in a normal way.

KINDS OF CULTURE.

There is probably no other subject in citrus-growing that formerly elicited so much heated discussion as did the question of the time and kind of cultivation. Usually the debaters ignored entirely the kind of soil, the character of their land, and the length of time during which they had practiced their particular hobbies. We, therefore, find that the sects were divided into practically three schools: The perfectly clean culture men, who considered it a disgrace to have a sprig of grass visible in their groves; the school who argued that since our wild trees never were cultivated in the native state, therefore the grove trees should not be cultivated; later, a third school sprang up that considered it entirely proper to cultivate during the drier part of the year, but ceased cultivation altogether during the rainy part of the year. It speaks well for the hardihood of the orange tree to be able to endure and produce a paying crop under all of these conditions of cultivation. Some of the school of clean culturists conserved the moisture of the soil by using a liberal organic mulch. Some, in fact, went so far as to spend much time and money in cutting shrubbery from the hammock or piney woods and applying this under the trees as a mulching, to add humus to the soil and to conserve the moisture.

Later, and from necessity, a number of orange growers have had to take care of orange groves that became completely sodded with Bermuda grass. We might call these the Bermuda sod groves.

Spring Cultivation.—In sections of Florida where it becomes necessary to bank trees to protect them against the danger of winter freezing, cultivation should not be begun until all danger of frost or freezing is past. Remove the heating apparatus or piles of wood that may have been placed in the grove to protect it against freezing, then pull down the banks and begin to cultivate.

Groves that have been well tilled the year before will be found in excellent shape for using small tools, such as the Acme harrow, Planet Jr., etc. In groves where considerable vegetable matter is left over from the previous year, it may be necessary to use a cutaway harrow to break this up. The first cultivation in the spring may be somewhat deep, since it is not likely that new feeding roots have been formed near the surface. If, however, the cultivation is not started until feeding roots have formed, it is best to avoid deep cultivation. Deep cultivation at this time of the year, as at any other time, is a relative rather than an absolute term.

After the first cultivation, nothing more than a mere stirring of the first inch or two of soil should be given. This conserves the moisture so much needed at this time of the year. Our driest portion of the year is likely to occur during March, April and May. The more frequently we cultivate, the more of the soil moisture is conserved. Ordinarily, it is not profitable to cultivate more frequently than once a week. If our soil is in the best possible condition, a weeder may be used. It may be necessary to load the weeder with a small piece of cordwood. With such an implement, a man and a horse can cultivate a ten-acre grove in a day.

Catch Crops.—Where some form of crop is being grown between the rows of trees, it is necessary to give this crop the best of attention and an abundance of fertilizer to keep it from drawing heavily on the young grove. It is a good practice to keep at least six feet away from the reach of the branches. Trees that are over five years old are likely to have roots extending as far as midway between the rows; consequently, cultivation of the catch crop should be gauged according to the needs of the citrus grove.

Summer Cultivation.—Some fine groves and much excellent fruit have been produced by a continuous summer cultivation; other groves have been seriously injured and the crops of fruit have been ruined by such work. The question depends more upon what the character of the land is than upon any dogmatic method of procedure.

Ordinarily, it is safe to discontinue cultivation as soon as abundant rains occur, and to allow grass and weeds to grow at their will. If the grass and weeds become too tall and appear to be a detriment to the grove, a mower may be used to cut them down. During the summer season these will rot and return to the soil as humus. If the grove does not need mowing, the grass and weeds may be allowed to grow, and at the close of the rainy season the grass may be made into hay and removed from the field. Where the soil is deficient in humus, it will probably pay better to mow the grass and weeds and allow them to rot to humus in the grove.

Velvet beans, cowpeas and beggarweed may also be planted in groves if the soil is not too rich in organic ammonia. These legumes abstract nitrogen from the atmosphere and return it to the soil in the organic form. There are instances where this has been carried on to the extent of producing dieback in the grove. Where there is the probability of getting too much organic nitrogen in the soil, the legume may be made into hay. If these legumes are used in the grove, they should be mown in the beginning of the dry season so as to reduce the number of plant bugs to a minimum, since frequently these sucking insects cause a loss of fruit when the legumes are permitted to remain late in the fall.

Fall Cultivation.—Whether we should cultivate in the fall or not will depend largely on local conditions. If we are having a severe drought it may be advisable to use a cutaway harrow, or an implement of this kind, to break up the surface soil so as to conserve the moisture. If the moisture is not needed, it is usually preferable to allow the soil to remain undisturbed.

Winter Cultivation.—In the early winter, before there is any danger from frost, it is frequently necessary for us to cultivate to prevent rapid evaporation of the moisture. We can also at that time incorporate more or less of the cover crop that grew during the summer season. Care must, however, be taken not to carry this cultivation to the extent of stimulating the trees into late growth; otherwise, we are apt to get our trees severely injured by an early freeze. If however, the work is carried on in such a way as to conserve the moisture and yet not stimulate the grove into growth, much good can be done by early winter cultivation.

Cultivation and Dieback.—Dieback is a disease to which practically all of our citrus trees are subject, and one that causes much annoyance and frequently considerable loss. The observant grove owner, however, will recognize the preliminary symptoms of the disease and guard against it. The disease seems to be due to unfavorable soil conditions, brought on by too rapid a development of ammonia in the soil. It may also occur as a result of a number of other conditions.

Depth to Cultivate.—The depth to which a grove may be cultivated safely depends more on the character of the soil than on any other condition. In sections where there is a deep clay soil, the roots of the trees penetrate well into the ground. In thin, sandy soil, the roots are apt to keep close to the surface. This is also the case in our low palmetto hammocks.

The depth to which we should cultivate, then, will depend largely on the character of the soil on which the grove has been planted. In general, we should never plow or cultivate so deeply as to disturb any considerable number of the fibrous roots, and certainly not to the extent of breaking large roots.

By observing the depth of the roots in the soil, we will be able to gauge, in a measure, the depth to which we can cultivate. This, we will find, varies, however, in the same grove in different years. Consequently, very much depends on the judgment of the man who is doing the cultivation, or having it done.

Implements.—Under ordinary circumstances, the heavy two-horse plow has no place in a grove in good health. A light one-horse plow may be used to some extent. This tool, however, is a poor implement, since it wastes so much time for the grove owner. One of the best implements for deep cultivating is the cutaway harrow or disc harrow. For a small grove, the one-horse harrow will be found preferable. For an extensive grove this is too slow, and we need a two or three-horse cutaway or disc harrow.

The spading harrow will also be found useful under certain circumstances. The Acme harrow is also an excellent implement to use when the vegetable matter has been worked into the soil. It does poor work, however, when a considerable amount of vegetable matter is present on the surface. The Planet, Jr., cultivator or Sweep cultivator is also excellent for shallow cultivation. When the orchard has been put into a good state of tilth, and our only object is to conserve the moisture, the weeder is one of the best and most serviceable implements. The ordinary spring-toothed cultivators are not good implements, since they pull up too many of the roots they happen to come in contact with.

BUILDING UP A NEGLECTED GROVE.

The best way to build up a neglected grove is to let the other fellow do it. Buying a neglected grove is like buying an old, neglected horse. Under certain circumstances it may be done with profit, but under ordinary circumstances it is cheaper and much more satisfactory to start a new grove.

It happens frequently, however, that one has an old grove, or that part of his property happens to be an old, neglected grove. In such cases, we wish to know what is best to do.

Pruning.—The first step in such conditions is to go into the grove with a good sharp saw, pruning shears and other implements for butchering trees. The pruning should be done thoroughly and severely. Take out first all dead wood; then take out all of the weakened wood; finally, shape the tree up so as to make it more or less symmetrical. Do not leave any long, spreading branches, even if they appear to be perfectly healthy. Head them back, so as to make a good, compact tree. When an old, neglected orchard has been properly treated, it is usually a sad-looking sight.

Fertilizers.—Give the entire grove a liberal allowance of a fertilizer such as is used ordinarily for producing growth. A good formula for this purpose will contain about 4 per cent. ammonia, 6 per cent. phosphoric acid, and 8 per cent. potash. As a source of ammonia, nitrate of soda may be employed; as a source of potash, use a high-grade sulphate of potash, or low-grade sulphate of potash; and as a source of phosphoric acid, the acid phosphate. The amount to be applied per tree should be very liberal. More people err in applying too little than in applying too much. Spread the fertilizer evenly broadcast over the entire grove, at least over the portion of the grove where trees occur.

Plowing.—Ordinarily, such a grove should be plowed very deep, even to the point of breaking and cutting large roots. Care must, of course, be taken not to plow so deeply as to destroy a large percentage of the roots of the trees. This will vary according to the character of the soil on which the grove happens to be located. Ordinarily, the plow may be made to go five or six inches deep, plowing much deeper in the middles and shallower near the trunks of the trees. After the grove has been plowed in one direction, then cross-plow it. In this way the fertilizer is pretty thoroughly incorporated with the soil and brought where the roots can get it almost immediately. After this thorough and deep plowing has been completed, cultivation with an ordinary implement should be continued.

By such drastic treatment, the weaker trees are likely to be killed out entirely. The sooner these are killed out the more profitable it will be for the owner. He can then replace them with vigorous young trees. The old trees that have vitality enough to stand such vigorous treatment are pretty sure to respond promptly.

PECAN CULTURE IN FLORIDA.

Much the greater part of this article is taken from the Florida Experiment Station Bulletin No. 85, by Prof. H. Harold Hume, and also from the written opinions of other well-informed and expert growers of the Pecan.

BOTANY OF THE PECAN.

The pecan tree is indigenous in the United States in the rich, alluvial bottoms of the Mississippi, and also thought to be in some of the rich bottom lands of northeast Texas. Its northern limit is supposed to be about Davenport, Iowa. In the Mississippi valley proper it extends within a few miles of the Gulf Coast, further west it extends into Mexico.

The area in which it may be grown is said to embrace within its four extremities the cities of Davenport, Iowa, Chattanooga, Tenn., Laredo, Tex., the region of the headwaters of the Colorado River in Texas, and even at the present day as far west as Arizona. It extends furthest from the center of the area along the streams and rivers. It is at present grown in all of the Southern States in greater or less degree. From the foregoing it will be seen that the pecan tree is a native in parts of the folowing states, viz.: Illinois, Indiana, Iowa, Missouri, Tennessee, Kentucky, Alabama, Louisiana, Arkansas, New Mexico, and Oklahoma. Outside of this area it has been planted in a large number of States. Its cultivated area corresponds rather closely with that of the cotton plant, though its extension beyond this area is constantly increasing.

The pecan belongs to the family *Juglandaceae* (Walnut family), its near relatives being the other species of hickory, the walnut and butternut. For many years the scientific name commonly applied to it was *Carya Olivae formis Nutt,* but in deference to the rules of priority this name has largely given place to the name Hicoria pecan (Marsh) Britton. This name *Hicoria pecan* is peculiarly significant, since it is truly American, being derived from *powcohicora* and *pecan,* two words used by the Indians for hickory nuts.

It is a large, stately tree, 75 to 170 feet in height, with wide-spreading branches and symmetrical top. The bark is rough, broken and grayish-black in color. The bark of the young twigs is quite smooth, liberally dotted with lenticles, and during their early life, together with the leaves and flowers of the tree, they are covered with a liberal coating of rather rust-colored hair. The leaves are oval, compound, composed of from seven to fifteen falcate, oblong-lanceolate, sharp-pointed serrated leaflets, green and quite bright above, lighter colored below, and when mature, nearly or quite smooth. The flowers are of two kinds—pistillate and staminate. The former are produced upon the young shoots, while the latter come from buds upon twigs one year old. The staminate catkins are usually produced in two groups of three each, from a single bud, and have very short stalks. The stamens are three to five in number in each flower, and borne beneath a three-parted bract. The pistillate flowers have a four-valved involucre (known in the mature form as the husk) and a two-parted stigma. The nuts are quite variable in size, shape, color and quality. Some are long and pointed, others are nearly spherical. In Texas the spherical, or nearly spherical, nuts appear to be more common than elsewhere. Selected nuts of some varieties will weigh an ounce or more each, while of many other kinds it takes a hundred, more or less, to make a pound.

As a general rule the husks of most varieties open at maturity. In some, however, they remain closed, or nearly so. These latter varieties are objectionable on account of the increased difficulty of gathering the crop.

Pollenation.—The pecan is well-pollenated. In consequence, there is a great waste of pollen, to compensate for which it is produced in large quantities. Wet, windy weather, at the time the trees are in bloom, frequently interferes with pollenation to such an extent that the crop is reduced very considerably.

With some species of hickory, notably *H. minima* and *H. glabra,* cross-pollenation and consequent cross-fertilization with the pecan have resulted in several well-marked hybrids. None of these found thus far, with perhaps one or two exceptions, have been worthy of propagation.

RANGE OF CULTURE IN FLORIDA.

The pecan may be, and practically is, grown in all sections of the State wherever the soil conditions are found to be satisfactory. Its culture, however, should not be attempted in the southern portion of the State much, if any, below 28 degrees latitude; success would, at best, be questionable; it might succeed in the elevated portions of Polk and Hillsborough Counties, but it is uncertain.

The statement is frequently made, and quite generally believed, that the pecan will succeed wherever the larger species of hickory are found in the State. This is largely true, as the pecan belongs to the same family and genus of trees, but it should not be relied on implicitly. In no case must soil conditions be overlooked or disregarded.

PECAN PROPAGATION.

The pecan may be propagated from seed or by budding and grafting.

Formerly they were grown almost entirely from seed and seedling trees were planted. But now seedlings have given place to budded and grafted trees. Why so? It was announced as a fact, not so many years ago, and there are some who may still maintain it, that 50 per cent., or some other per cent., of pecans would come true to seed. But it must be stated as a fact that neither 50, nor any other per cent., will come true to seed. We have yet to find a single instance where the nut of a seedling tree was identical with that borne by its parent plant. Occasionally they are better, but the rule is that they generally are vastly inferior to the fruit produced by the parent plant. Hence, if an orchard of trees of the same habit of growth, prolificness, regularity in bearing, uniform throughout, trees which will produce a crop of nuts uniform in size, shape, color and quality, is desired, do not plant seedling trees. Scores of these seedling trees produce nuts but little larger than chinquapins, and it is a fact which cannot be gainsaid that the seedling pecan, up to the time of fruiting, is an unknown quantity, after which it is too frequently a disappointment.

But seeds have their place. From them are grown the stocks upon which to work desirable varieties. From seeds may be originated new and desirable varieties, for it sometimes happens that the seedling is better than the parent. Seedling trees may be grown and set out in orchard form, to be top-worked afterward. This plan has something to recommend it. It is less expensive, provided time is not an object, for it takes a longer time to get bearing trees by this plan, and it is open to the further objection that it is more difficult to secure uniformity in size and shape of the trees than it is by setting out budded or grafted trees at first. The objection in the way of expense, if that be an objection, is best overcome by planting nuts in nursery rows, grafting the trees there, and then setting them in the field. By no means should the nuts be planted where the trees are to remain. It is too difficult to give them the necessary care. Besides, they are likely to be destroyed by squirrels or other animals, or the seedlings injured through carelessness in cultivation.

Selecting and Planting Nuts.—Nuts to be used in growing stocks should be fully matured before gathering. Some care should be taken in their selection. They should be of good size for the variety, and should be gathered only from healthy, vigorous trees. Frequently the only object held in view is to get as many nuts as possible in a pound, without regard to the tree on which they grew. We believe that this is in a large degree responsible for the unsatisfactory growth made by many grafted trees. Those nuts which mature first are best for planting.

The nuts may be planted in Florida as soon as they are taken from the trees, placing them in drills three and a half feet apart and covering them two and a half or three inches deep. In many cases it may be necessary and more convenient to stratify the nuts in damp sand in boxes, first an-inch layer of sand, then a layer of nuts, until the boxes are filled. These boxes should be placed in a cool, shady place, under a building, in a cellar, or buried in the earth. It is a good plan to cover them with wire net to prevent mice, rats or squirrels from attacking them. In early spring the boxes should be emptied out and the nuts planted as directed above.

The seed-bed should be thoroughly prepared, plowed deeply or subsoiled, well supplied with organic matter, either from stable manure or from beggarweed, velvet beans, cowpeas, or some other leguminous crop on the soil, and turned under.

During the growing season the seed-bed should be kept well cultivated and free from weeds and grass. A fertilizer rich in nitrogen should be used. Its composition will have to be governed very largely by the character of the soil and the care and cultivation given it previously; but for good nursery soils a fertilizer analyzing three per cent. nitrogen will give good results. In a favorable season the tops of the young trees will be a foot or somewhat more in height, with a tap-root two feet and a half or so in length. The following spring and summer many of the young trees can be worked by grafting or budding.

Propagating Tools.—The tools necessary for propagating pecans—nursery work and top-working—are a common budding knife, a budding tool, a grafting iron, a grafting mallet and a fine-toothed saw.

The budding knife should have a thin blade of good steel, capable of retaining a keen, sharp edge. The whetstone must be used frequently to keep the blade sharp to insure the making of smooth, clean cuts.

At least three budding tools have been invented. These are known as White's, Galbreath's and Nelson's budding tools, respectively. The principle in each one is that two sharp cutting blades are fixed parallel to each other to insure uniformity in cutting annular and veneer-shield or patch buds. White's budding implement is especially recomended for use in top-working. The holes along the sides are used as a gauge for measuring the stock and bud stick. In the writer's opinion, the one best adapted for veneer-shield budding, but the blades are just a little too close together. A very satisfactory knife for this work may be made from two ordinary budding knives and a piece of wood three-quarters of an inch square and four inches long. To opposite sides of this the blades can be firmly atached with rivets and by binding with fine wire and twine.

The grafting iron is indispensable in cleft-grafting. These can be purchased at small cost, or a blacksmith can make an excellent one from an old flat file. Three or four inches of the file should be flatened and sharpened for a blade. In the remainder drill two holes and attach two pieces of wood to form a handle.

A small-sized carpenter's mallet answers nicely for a grafting mallet, or a very good one can be made from a piece of tough wood or a piece of an old wagon spoke. A leather thong should be attached to the handle, through which the wrist can be slipped to carry it when top-working.

The best saw for use in top-working is a carpenter's back-saw. This has a stiff blade, fine teeth, and leaves a smooth, clean cut.

Waxes, Cloth and Twine.—Good grafting-wax may be made according to either of the following formulas:

1. Resin 6 pounds, beeswax 2 pounds, linseed oil 1 pint.
2. Resin 4 pounds, beeswax 2 pounds, tallow 1 pound.

Melt the ingredients in an iron kettle over a slow fire, stirring slowly to insure thorough mixing. When melted, pour out into a bucket of cold water. Grease the hands, remove the wax from the water as soon as it can be handled and pull until it is light-yellow in color. Wax not needed for immediate use may be rolled up in balls, wrapped in oiled, stiff brown paper, and put away for further use.

Waxed cloth can be prepared by melting the wax in a kettle and dropping into it sheets or wide strips of old calico or cotton cloth. As soon as saturated with the wax, remove them from the kettle and stretch on a board. For use tear into strips, one-quarter or one-half of an inch wide.

Waxed twine is prepared by dropping balls of No. 18 knitting cotton into the melted wax and stirring them about for four or five minutes, or until the wax has penetrated them.

Selecting Cions and Buds.—Cions and bud sticks should be taken from healthy, vigorous trees. Select the cions from well-matured wood of one year's growth, though a piece of two-year-old wood at the base will not matter. The wood is angular, small and the internodes long, and the pith large in proportion to the diameter. Either terminal portions of twigs may be used or portions back of the tip, but the buds should always be well developed, full and plump. For this reason grafts should not be cut from wood far back from the tip of the branch. As stated already, twigs of the previous season's growth are generally used, provided the growth is not too large. Grafts are generally cut about five or six inches long and should be from one-quarter to three-eighths of an inch in thickness.

It is best that the grafts be cut while still in a dormant state, and inserted in the stock just before growth starts. The cions may be kept for a considerable length of time by placing them loosely packed, in damp moss or sawdust, in a box. The box should be covered over with earth and the cions kept sufficiently moist to prevent drying out. The difference in the condition of the stock and cion, it should be understood, is not absolutely necessary, as good results are frequently obtained without these precautions, but in grafting the pecan a difference in dormancy is extremely desirable, and it is an important factor in securing good results.

For bud-sticks, well-developed one-year-old branches, one-half to seven-eighths of an inch in diameter, and on which the buds are well formed, or older wood, with plump, full buds, are selected. Such sticks frequently show three buds at a node, and if some misfortune should overtake one or two of these, there is still a chance of success, though the upper one, being the strongest, is generally the one which starts, provided it is uninjured and the bud takes. The degree of maturity of the bud is important, and care should be exercised that only those which are plump, full and well-developed, are used. It is easy to distinguish between desirable and undesirable buds.

Grafting and Grafting Methods.

Top-working by grafting, or the grafting of nursery stock above ground, should be done in spring just before growth starts. The preference is for the latter part of the season, provided there is not too much work to be done, as the cions have less time to dry out before the process of uniting with the stock begins. The work of whip-grafting nursery stock under ground just at the crown roots of the seedlings can be started in the latter part of December and continued until February. For this work the earth is thrown back from the seedlings, leaving them standing in a narrow trench. After the cions are inserted, the ground is placed back about them, covering them up, leaving only the top bud exposed. The seedling trees cannot be dug up and bench-grafted satisfactorily in winter, as is the practice with apples, pears and other fruits. It can be done, but the percentage of unions secured is too small to make it an economical method to follow. The only satisfactory plan is to graft the seedlings in the nursery row, as described above.

Two methods of grafting are used, cleft-grafting for top-working and whip-grafting for working both nursery seedlings and old trees.

Cleft-Grafting.—Having selected the place on the branch or trunk at which the cion or cions are to be inserted, the part should be sawed off with a smooth, clean cut. The end of the stub can then be cut squarely off at the point desired.

The trunk or branch is then split with the grafting iron. The cleft should be carefully made, and should be about one and a half inches in length. In preparing the cion, a sloping cut is made at the lower end about one and a half inches long, cutting into the pith from a point one-half way up the cut, down to the lower end. On the opposite side, the second cut should not touch the pith, but should be made through the wood throughout. The cion should be left wider on the outer side than on the inner to make a tight fit when inserted. Start the cuts on each side of and just at a bud.

Having made the cleft, open it with the wedge end of the grafting iron and place the cion in position in the cleft stock. *The cambium layers should be in contact* and the cion should be shoved well down until the whole of the wedge is within the stock. In large stocks two cions may be inserted, the weaker of which should be removed if both live. Large stocks will exert sufficient pressure against the cions to render tieing unnecessary, but if the stocks are small the union should be firmly tied with waxed twine or cloth, and in any case the ends of the cut stock and the union should be covered smoothly with grafting-wax. Should there be danger of the stock exerting too much pressure (as in the case of large stocks), the cleft should be made well out to one side of the center.

Whip-Grafting.—Stocks, whether seedling trees or branches in the tops of old trees, should be less than an inch in diameter, one-half or five-eights inch being a nice size.

A sloping cut, an inch or an inch and a half long, is made at the end of the cion, a corresponding cut is made on the stock, a small tongue of wood is raised on each by making a cut with a knife-blade parallel to the grain of the wood. The tongue is raised a little on both stock and cion and the two are then shoved together, with the cambium layers on one or both sides in contact. They must then be firmly bound together with twine or cloth, the whole of the cut surfaces being covered over to the exclusion of water, air and the germs of decay.

The cion and stock are preferably chosen of nearly the same size, but a cion somewhat smaller than the stock may be used, in which case the cambium layers along one side of the surfaces in contact must be placed opposite, as already indicated. In working nursery seedlings by whip-grafting, the cions should be inserted so that the point of union will be under the surface of the ground. The earth should be placed back around the union as soon as the work is completed. This plan of propagation will not give satisfactory results except on well-drained lands.

BUDDING AND METHODS.

Budding is preferred to grafting by some propagators, as they are able to secure a larger percentage of unions than by grafting. Much, however, depends upon the locality, soil and drainage. By either method from fifty to seventy-five per cent. of successful unions must be considered satisfactory. The amateur may well be satisfied with 10 per cent.

The season for budding is when the bark will slip well during the months of July and August. The season is, however, often extended into September. Many of the buds inserted late in the season remain dormant until the following spring.

During the season, from the first of July until September, the atmosphere is moist, the buds are in good condition, the sap flows freely, and better results are secured than at any other time. The buds commonly used are those which have been formed just previously. They should be carefully selected and only those fully matured should be used. Oliver (Bulletin 30, Bureau of Plant Industry, U. S. D. A.) recommends the use of dormant buds of last season, but the method has not met with favor because of the large amount of wood which must be sacrificed to secure a few buds.

Annular Budding.—By this method branches or seedling trees three-quarters of an inch or less in diameter may be worked. It is preferable that the stock and bud stick be of the same size, though the stock may be somewhat smaller. From the stock remove a ring of bark an inch or so in length. On the bud-stick select a good bud and remove it by taking out a ring of bark the same in size as the one removed from the stock. Place this ring in the place on the stock prepared for it and bandage securely in place, using a piece of waxed cloth. The wrapper should be brought around the stock, so as to cover the cut ends. The bud may be covered over or left exposed.

In ten days or two weeks remove the bandage, and examine the bud. A plump, full bud at this time is an indication that union has taken place.

Veneer-Shield or Patch-Budding.—If this method is used, it is not essential that the stock and cion be of the same size, and so far as size alone goes almost any stock may be used. A rectangular or triangular piece of bark is removed from the side of the stock. From the bud stick cut a similar piece of bark with a bud in its center. Place the bud in place on the stock and wrap as in annular budding. If the stock is considerably larger than the bud-stick, the piece of bark with bud attached will have to be flattened out somewhat before inserting.

Lopping.—Frequently buds, particularly those inserted late in the season, act as dormant buds and do not begin growth until the following spring. The top of stocks budded during June, July and August should be lopped up to September first. It is always well to start the buds out before growth ceases for the season, but stocks budded after the first of September should not be lopped until the following spring, just before growth begins.

One method of lopping is to cut the stock back to within five or six inches of the buds, at first. Later, after the bud has grown to some size, it should be cut right back to the bud and painted over to prevent rotting. Lopping may also be performed by cutting the stock half off two or three inches above the bud and bending it over. After growth starts in the bud, it should be removed entirely, thus throwing the full flow of sap into the bud.

THE NURSERY.

The best soil for the pecan industry is a well-drained, loamy soil, with a clay or sandy-clay sub-soil. The land should be put in good condition before the trees or nuts are planted in it. Crops of beggarweed, velvet beans plowed under, or a good dressing of well-rotted stable manure will go a long way toward putting the ground in good shape. The ground should be plowed deeply and put in the very best tilth.

Throughout the growing season the ground should be cultivated frequently. Shallow cultivation to conserve moisture and destroy weeds is all that is necessary. It is not possible to grow good trees without thorough, frequent cultivation.

Fertilizers containing considerable nitrogen should be used at the rate of about 300 pounds per acre. One analyzing 3 per cent. phosphoric acid, 3 per cent. potash and 6 per cent. nitrogen is about right for nurseries on most Florida soils.

As soon as a block of trees is removed, it is an excellent plan to sow the ground in one of the leguminous crops mentioned above, to help it to recuperate. The frequent cultivations, so necessary for the growth of the trees, wear out the humus in the soil. The legumes will replace this if grown, and plowed back into the soil, after they are dead and dry.

TOP-WORKING PECAN TREES.

By far the greater number of seedling trees in the State have not fulfilled the expectations of their planters. The trees are not prolific, or the fruit which they bear is small and inferior. Such trees, if in good health and vigor, may be top-worked to advantage. Seedlings may be planted with the expectation of top-working them, but this is not recommended.

If the trunks are small, an inch or an inch and a half in diameter, the whole top may be removed at once. If the trees are of medium size the main branches may be worked close to the trunk; and if large, grafts may be inserted farther up from the trunk. Buds may be inserted in vigorous branches. The growth of such branches may be induced by cutting back the original branch of the tree in late winter. Lateral buds will then be forced into growth and by midsummer the branches formed from them will be large enough to bud. *The attempt should not be made to bud or graft over the whole top of a large tree in one season.* Only a few branches should be worked each year, and in the course of two, three or four years, depending upon the size of the tree, the old top can be entirely removed and replaced by a new one of a good variety.

Both cleft and whip-grafts may be used, but the latter can, of course, only be used on small stocks. The objection to working very large branches is that they do not heal readily; two and a half inches is about the maximum in size. Large wounds should be painted over with white lead paint to prevent decay.

For several months after the new top has commenced to grow the cions or buds have but a slight hold upon the stock, and as the growth is usually very vigorous and the leaf surface great, considerable damage is frequently done by strong winds, or by wind and rain together. To prevent this, the young shoots may be tied together or fastened to other portions of the stock. If this be done, care should be taken that the twine used does not do injury by cutting into the wood. To obviate this, a piece of burlap should be placed around the branch beneath the twine, and the twine should be removed as soon as it has served its purpose. In some cases the top may be supported by lashing a pole against the side of the trunk and fastening the grafts to the upper part of this, or a pole may be driven into the ground at some distance from the trunk, fastened against a branch or stub of a branch above and used in the same way. After the top has grown sufficiently to take care of itself, these posts can, of course, be removed. Sometimes, after the top has made considerable growth, and particularly if large branches are allowed to develop opposite each other, they are split apart and the whole top ruined. If this undesirable conformation exists it is best to take steps to prevent splitting. A bolt having a stout washer against the head should be placed through two branches, a second washer placed on and the nut screwed up. The bolt will, in the course of a few years, be entirely covered. By this means the tree trunks are held firmly together. This same plan may be used to save branches which have partially split apart. Sometimes a branch may be inarched from one large branch to another to serve as a living brace.

Necessarily, a considerable number of wounds are made in top-working. Branches are removed entirely, others are cut back to within a foot or so of the trunk and grafted. Often these fail to unite. Such stubs should not be left. If branches are formed on them they should be cut back to the point where these buds start; if no branches come out from them they should be cut back to the trunk or large branch on which they are borne. If left, they prevent the healing of the wound, rot back, and the rot is carried into and down the trunk of the tree, resulting in a hollow and weakening the trunk. *Smooth cuts should be made, and these should be covered with white lead paint to prevent decay.* A little lampblack may be added, if desired, to make the paint nearly the color of pecan bark.

SOILS AND THEIR PREPARATION.

The peculiar conditions of soil and moisture surrounding the pecan in its native home might be regarded as an indication that it cannot be grown except on deep, rich soil, in proximity to rivers, ponds or streams. Such, however, would be a wrong inference, for it succeeds admirably and bears good crops on a wide range of soils. Hence we find it today in localities far removed from the regions to which it is indigenous and thriving under conditions differing greatly from those obtaining in its native home. In Florida, trees may be found growing on soils ranging from the black hammock to the less fertile high pine lands. On hammock soils, however, the trees are often inclined to develop wood at the expense of fruit, while on less fertile soils the trees make less wood and bear more fruit proportionately. Pecans thrive well on flat woods; the grove of Dr. J. B. Curtis, Orange Heights, Fla., is planted on this type of land. Moisture in sufficient quantity must be present, but it will not do to plant the pecan on land that is continually wet and boggy. The presence of a hard, impenetrable sub-soil doubtless has a great influence upon the welfare of the tree, and it would be better to select other ground, or when this is impossible, to blast out the hardpan. A quicksand sub-soil is equally objectionable. If close to the surface, it should not be used. The roots cannot penetrate it. All things considered, the best soil is probably one which has previously supported a growth of holly, willow-leaved oak, dog-wood, hickory and those other trees usually found associated with them. A sandy loam, with a clay or sandy-clay sub-soil, is difficult to surpass.

A land intended for young trees should be well prepared. This preparation will depend largely upon the care and treatment which the soil has received previously. Land on which the forest still stands should preferably be thoroughly cleared and put in cultivation for a year or two before planting. Leguminous crops are excellent to precede the setting of the trees. Plow the ground thoroughly, break deeply, harrow it level, and it is ready for the trees.

PECAN PLANTING.

Buying Trees.—Florida has suffered as much from fraudulent pecan tree agents as any other State. Seedling trees have been "doctored" and sold to planters, and varieties have been sold which were untrue to name. Unfortunately, too few people are acquainted with the characteristics of a budded or grafted tree.

Those who are thoroughly acquainted with the wood, twigs and branches of pecan trees are able to tell the different varieties at a glance. The color of the bark, the shape, size and arrangement of the lenticles, the size and shape of the buds are always characteristic, and by these marks varieties can be distinguished. Every planter should acquaint himself with the wood characteristics of the varieties. But, after all, the safest, by far the safest, plan is to deal directly with honest nurserymen, men ot unquestionable integrity, men who give their business careful thought and attention.

The best trees for general planting are well-grown one-year-old trees, from three to five feet high.

Too often but slight attention is given to the planting of the trees. There is too frequently a disposition on the part of the person setting trees of any kind to do the work as rapidly as possible, without consideration for the future welfare of the plants. Few realize that time spent in careful, intelligent preparation of the soil and in setting the trees is time well spent and well paid for in the after-development of trunk and branch. Better a month spent in preparing the future home of the young tree than years of its life spent in an unequal struggle for existence. More than that, the tree may die outright and a year must elapse before it can be replaced. It is generally stated that the pecan is a slow grower, and yet trees from twelve to fourteen years old will sometimes measure from thirty-five to fifty-seven inches in circumference at the base, while under less favorable circumstances others will stand still for a period of six or seven years, or until they have accumulated sufficient energy to overcome the untoward conditions of their environment.

Distances.—The distance apart at which the tree should be set will depend in a measure upon the character of the soil. If rich and moist, the trees should be set farther apart than on higher, drier soils. Forty feet is generally believed to be about right for most Florida lands. Two methods of setting may be followed, rectangular and hexagonal. The number of trees which may be set per acre by the rectangular system are as follows:

40x40	27 trees
40x45	24 trees
40x50	21 trees
40x60	18 trees
45x45	21 trees
50x50	17 trees
50x60	14 trees
50x75	11 trees

60x60	12 trees
60x75	9 trees
70x70	8 trees
70x75	8 trees
75x75	7 trees

To find the number of trees for any distance not given in the above table, multiply the distances together and divide 43,560, the number of square feet in an acre, by the product. The result will give the number of trees.

By the hexagonal system, about fifteen per cent. more trees may be set per acre than by the rectangular system. If a double planting is contemplated, as pecans and peaches, the rectangular system should be used, and one or more peaches set out in each rectangle formed by the pecans.

Staking the Ground.—If a good plowman can be secured, the rows can be run off with a plow, running both lengthwise and crosswise of the field. Ordinarily, however, a true corner may be established with a carpenter's square, the field staked out around the outside. For the rectangular system, the stakes can then be set up in the center of the field by measuring or by sighting, or by both. Ordinary building laths make good stakes.

To stake off the ground by the hexagonal method, commence on one side of the field and plant stakes at the desired distance apart where the trees are to stand. Using two chains or two pieces of wire with rings at the ends (their length being the same as the tree distance), the position for the second row of trees may be easily ascertained. Drop the rings over two adjoining stakes and stretch them out until they form an equilateral triangle with the base line. Plant a stake at the apex to indicate where the tree is to stand. Set up all the stakes for this second row in the same manner, then use it as a base line and so on across the field.

Planting.—Having set a stake where each tree is to stand, the planting board should then be brought into use.

This is simply a light board, five or six inches wide and six feet long, with a notch cut in the center of one side and an inch hole bored in each end. In digging the holes for the trees this board is laid down on the ground with the notch against the tree stake. Two small wooden stakes are then shoved into the ground through the holes in the ends and the board and tree stake both taken away.

In preparing the tree for planting, all broken or bruised roots should be cut off immediately behind the injuries. This is usually done before packing for shipment if trees are purchased from a nurseryman, but possibly may be neglected or the ends of roots become rubbed or jagged in transit. The cuts should be made with a sharp knife from the underside of the roots and outward, leaving a smooth, sloping cut. To trim the roots to the best advantage, they should be held upside down while trimming.

In setting out a pecan tree, a hole 24 inches in diameter and 30 inches deep is usually large enough, although wider holes may be dug with advantage, thereby enabling more pulverized and richer soil to be put around the roots, which is beneficial to the new feeding roots as they form. When setting out the trees, carefully fill in among the roots with pulverized top soil or woods earth. Well-rotted manure or not exceeding one and one-half pounds of commercial fertilizer may be put in the outer sides of hole, as far as practicable beyond outer ends of lateral roots, while hole is being filled, but by no means to come in contact with the roots or trunk of tree. No fertilizer should be put at bottom of hole. Work and firmly press the dirt among the roots, laying each root in a natural position. No holes or cavities in the soil should be left, and soil must be in close contact with all roots, especially the tap-root. The bottom of the hole should be firm, to avoid further settling of the tree. The tree should be set at such a depth that after a copious watering and the permanent settling of the earth it will be, perhaps, a little deeper than it stood in the nursery row. It is very important that no part of the crown or root be left uncovered when planted or afterward, and if at any time it is found that the earth has settled and left any brownish-red part of the crown or root exposed, it must again be covered with soil.

The point where the root and crown leave off and the trunk begins is a very vital portion of the newly-set tree and must always be underground. Trees should be carefully examined after the first heavy rain after planting, and earth thrown to tree if soil has settled. It is better to plant them an inch or two deeper than they stood in the nursery row than to run the risk of having the crown of root exposed. If tap-roots are inconveniently long, say over thirty inches, they must be cut off by a sloping cut with a sharp knife. In the larger size trees it is better to sink a hole deep enough to receive the root without cutting shorter than is done before packing. The foolish theory about a pecan tree not bearing if its tap-root has been cut has been so thoroughly disproved that it is not worth discussion. If the tap-root is cut when the tree is dug, as is often necessary, the cut quickly heals and a new tap-root (sometimes several) will form. After planting is completed, loose soil should be lightly thrown around the tree to lessen evaporation, or it may be mulched with leaves, straw, etc., in lawns and other places where no crops are to be planted. The mulching of newly set trees is highly recommended. The ground is thereby kept moist, a slow decaying supply of natural plant food is provided, and grass and weeds are not so troublesome, thus avoiding the necessity of so frequently stirring the soil immediately around the trees. The ground around fruit or nut trees should never be allowed to bake or crust, and it is the more important with newly set trees, particularly the first season.

Never allow the roots of a pecan tree to become dried out. It is best that the necessary root pruning be done in the shed and the trees carried to the field wrapped in a damp blanket, from which they are removed one by one as required for planting. The tops should be pruned back slightly to restore the balance between the roots and the tops, which has been disturbed in the process of transplanting.

The best time to plant pecan trees is somewhere between the first of December or the latter part of November and the first of February. Preference must be given to the earlier part of this period, as the ground will have a chance to become firmly packed and the root wounds will have partially calloused over before the growing season begins. Besides, the early spring season in Florida is usually dry and recently planted trees do not stand nearly so good a show as those planted in December and January.

CULTIVATION.

Because the pecan grows as a forest tree in some parts of the country many people suppose that it can be left without care and cultivation, left as any other tree in the fields and woods is left to shift for itself. But if fruit is required from the tree, no matter whether planted in the garden or the orchard, it should be given good care. Too many of our practices are based upon ideas taken from the native trees of the woods and fields. But all these trees do from year to year is bear a few fruits, many of which are imperfect, in the attempt to reproduce themselves. If that is all that is desired of the pecan tree well and good; a system of neglect will secure the result and the insects and fungi will be the chief beneficiaries of the practice.

One lesson can be learned from the woods. The ideal soil conditions for the pecan grove is that found in the forest. The soil there is filled with vegetable matter and humus; it holds water and plant food. The aim in the cultivation of the trees should be to provide and maintain a soil as nearly ideal as that.

Whether anyone would have the temerity to advocate the cultivation of a pecan orchard along the lines applied to peach orchards and citrus groves is seriously doubted. A pecan plantation will begin to bear in from six to eight years after planting and should produce a very fair crop at ten years, after which it rapidly increases in productivity. But during the period when the trees are growing and no fruit is being produced, cultivation must be given. This is best done by planting the land between the tree rows in cotton, peanuts or other field crops, in vegetables, cowpeas, beggarweed or velvet beans. The last mentioned crops may be used in making hay. These are the ideal crops for the pecan orchard. It would be best to follow a systematic rotation of these crops. As, for instance, first year peanuts, second year cotton, or first year crabgrass and beggarweed, second year cotton, and third year velvet beans or cowpeas.

The area grown in these crops should by no means equal the total area of the field. The tree rows for a width of four or five feet on each side should not be planted in crops during the first year. This strip should, however, be cultivated during the first part of the season and about the beginning of the rainy season sowed to beggarweed. The cultivated area will necessarily become more restricted each year, and eventually the ground will have to be given up to the trees.

Then the plan frequently advised is to put the land in grass and use it for a pasture. But grass is generally an important item in the cultivation of neglected pecan orchards. *It is synonymous with neglect and bad treatment.* It interferes with the growth, development and fruiting of the trees, and this plan is no longer advised by growers.

Instead, it is preferable to cultivate the trees in spring, continuing the cultivation well up to the rainy season. Later, in August, a crop of crabgrass and beggarweed may be removed for hay. By autumn a considerable additional growth will be formed to cover the ground in winter and turned back into the soil to restore and maintain the necessary humus content of the soil.

FERTILIZERS.

On nearly all Florida soils pecan trees are benefited by the application of fertilizers in some form or other. Large quantities of food materials are taken from the soil in the growth of the trees and the development of the crop.

The greatest demand made on the soil by the tree is for nitrogen, and this can be met by applying stable manure, or by growing leguminous crops and turning them under, as already directed. In the fertilizing of the pecan this is by all means the best policy. The potash in the form of sulphate or muriate of potash and the phosphoric acid in the form of acid phosphate can be supplied separately.

Formulas.—The requirements of the trees will differ at different stages of their growth. The needs of the young trees differ from those of fruiting ones. For young trees. nitrogen in considerable amounts is required, while for bearing trees more potash and phosphoric acid and less nitrogen, relatively, are required. If complete fertilizers are used, those given the young trees should analyze about five per cent. phosphoric acid, six per cent. potash and four per cent. nitrogen; while one containing six per-cent. phosphoric acid, eight per cent. potash and four per cent. nitrogen is about right for bearing trees.

If we assume that acid phosphate analyzes 14 per cent. phosphoric acid, high-grade sulphate of potash 50 per cent. potash, cotton seed meal 6.5 per cent. nitrogen, and dried blood 14 per cent. nitrogen, the following amounts of these materials, which may be mixed at home, will give approximately the above analysis:

For Young Trees—

Acid Phosphate (14 per cent. goods)	700 pounds
H. G. Sulphate Potash	225 pounds
Cotton Seed Meal	1,150 pounds

If dried blood is used in place of cotton seed meal, one-half of the amount, or 575 pounds, will give as much, or slightly more nitrogen, than the 1,150 pounds of cotton seed meal.

For Old Trees—

Acid Phosphate (14 per cent.)	850 pounds
H. G. Sulphate Potash	300 pounds
Dried Blood	250 pounds
Cotton Seed Meal	600 pounds
	2,000 pounds

Applying the Fertilizer.—The whole of the fertilizer may be applied in spring, just before the growth starts. On the whole, this is one of the best times to apply it. In some cases it may be advisable to apply only half the material at that time, leaving the other half for application about the first of June. So far as the nitrogen part of the fertilizer is concerned, this would be good practice, but the potash and phosphoric acid may as well be applied at the beginning of the season's growth.

In applying the fertilizer to young trees, it should be put on in a circular band about the tree (closer or farther away, depending on the size of the tree), and spreading it around on a strip four or five feet wide. As the trees increase in size, the fertilizer should be applied over a larger area until, in the case of old trees, the whole surface should receive an application.

PRUNING.

For such pruning as is necessary for pecan trees, a few tools should be provided. These will consist of a pair of good pruning shears, German solid steel pruning shears being the best, a pair of Walter's tree prunes for cutting back long branches, and a good pruning saw. One of the best pruning saws is what is known as a Climax pruning saw, or a Pacific Coast pruning saw is equally as good.

It is not advisable to prune the trees during the time when growth has just started in spring, and the sap is in active motion. At this time it will be well-nigh impossible to properly protect the wounds. The necessary coat of paint will not stick to the wound when wet with sap from the tree.

While pruning may be done during the sumer months, when the tree is in full leaf, all things considered, the best time to prune is in early spring before growth starts. There is usually less to be done on the farm at this season and more time is available for the work. Wounds made at this time usually heal quite rapidly.

In cutting all branches the saw should be held parallel to the part which is to remain, and the branch should be cut off smoothly close up to the trunk.

As soon as the branch is removed the wound should be painted to protect it from decay. For a protective covering, nothing is better than white lead paint. A small amount of coloring matter may be added to it, if desired.

As a general rule, the pecan requires comparatively little pruning. At the time of planting, the young trees should be cut back some distance, particularly if they are very tall. It is well to have the main branches from within four or five feet of the ground. After this about all the pruning necessary is to remove dead or injured branches and cut back those which have a tendency to run up beyond their neighbors. For this work, as well as in procuring grafts or bud-wood from the top of the tree, the tree-pruner comes into good service.

Top-worked trees frequently require considerable pruning to get them started so that they will develop into symmetrical trees.

HARVESTING AND MARKETING.

The pecan crop is not so difficult to harvest and prepare for market as a crop of oranges or peaches, for instance, and yet some care must be taken to put the nuts on the market in inviting shape.

Field Equipment.—The equipment necessary for harvesting consists of an extension ladder, a step-ladder, a number of bamboo fishing-poles and picking sacks. The best kind of step-ladder is one having three legs instead of four. Picking sacks should be made from ordinary hemp or jute sacks. The sack should be spread open with a piece of stick, sharp-pointed at both ends, placed in one side of the mouth, thus making the opening triangular. Place a pecan nut in the lower corner of the sack, tie one end of a piece of stout twine about it as it lies in the corner and then tie the other end of the twine to the center of the mount of the stick opposite the stick. The twine should be short enough to draw the bottom and top of the sack close together, leaving an opening through which the arm may be thrust and the sack slung over the shoulder.

Picking.—As soon as the greater percentage of the burrs have opened, the crop should be gathered. It will not do to wait until all have opened, neither is it advisable to pick the trees over a number of times. Pick them clean at one picking. The burrs of those nuts which are fully matured will open, the burrs of immature ones may not. The latter should be discarded.

The men should climb the trees and pick the nuts by hand, using the bamboo poles only for those entirely out of reach. Even this should be done carefully, so as not to injure the bearing wood of the trees. Care in picking good nuts by hand will amply pay the grower, because the beating and shaking of the trees will cause a considerable quantity of fruit to be lost, and a few pounds saved will repay all the time and trouble. Of course, in very high trees there is frequently nothing to do but shake and thrash the crop off the trees. The plan of covering the ground beneath the trees with a large sheet would work well and assist in reducing losses. As soon as taken from the trees the nuts should be spread out under a shed or in a building to dry. A very convenient plan, and one which will save space, is to provide a sufficient number of trays, three feet by four feet, and three inches deep, with half-inch mesh wire bottoms, and place the nuts in these, two or two and a half inches deep. Racks can be provided around the room in which to place these. In from ten days to two weeks from the time of picking the nuts should be cured.

Grading.—The variety should be made the basis of the grade; that is, each variety should be picked, packed and marketed by itself. This, besides, gives an excellent opportunity to compare the commercial value of different kinds. When a grower has a large number of different kinds of seedling nuts, and a small quantity of each, they may be graded by passing them through screens.

Polishing.—At the present time practically all of the common market nuts are both polished and colored. Coloring should not be resorted to, and in the case of good varieties of nuts polishing should not be done. In the case of small or mixed lots, however, polishing is useful in making the nuts more uniform. It can be accomplished by putting the nuts, with a little dry sand, in a barrel fixed so that it can be rotated like a revolving churn and turning over until the nuts receive the desired polish. The better nuts, however, should be put on the market just as they come from the trees. The markings, dots and streaks on the outside are their trademark and should not be interfered with.

Packages.—For shipping small quantities of pecans by express, nothing is better than a box. Barrels are best for larger shipments. For mail shipments stout pasteboard, wooden or tin boxes or tin cans make good packages.

Frequently shipments are made in sacks, but the sack does not afford sufficient protection to the contents and should not be used. As a rule, the box should be made so that a given weight will fill it, but this difficulty may be overcome, to a certain extent, by putting in a pad of paper or excelsior—paper being preferable. Fill the packages on a solid floor, shaking them down well and putting in all they will hold, placing the pad, if one has to be used, in the bottom.

On the outside of the packages, before shipping, should be placed the name of the grower, the variety, the numbr of pounds, and the shipping directions. Small boxes to be shipped by express for the holiday trade should be wrapped in good quality wrapping paper before shipping.

Marketing.—The best plan for marketing good pecan nuts is to build up a private trade. As a matter of fact, at the present time but very few of the large, full-meated pecans find their way into the general market. They are either taken by seedmen or consumed by private customers. In building up a private trade, advertising has its place, of course. Advertisements inserted in a magazine or papers, particularly in those which are published in the tourist towns of the State, may be found helpful.

The object and aim should be to give each private customer a package, bright, neat, attractive and containing the best quality of nuts. If a certain price per pound is fixed for a given quantity, then this should not be varied under any circumstances. Each year the same quality of nuts should be given to each customer. It will not do to give large ones one year and smaller ones the next; this tends to create dissatisfaction. In some of the larger cities there are high-class fruit dealers who handle nothing but fruits, nuts, etc., of the very highest quality. Under some circumstances it might be well to enter into negotiations with such firms.

VARIETIES.

Although the pecan industry is not old, yet a very considerable number of varieties has been brought forward. Not all of these are or have been meritorious, and in fact many varieties are now represented by name only. Other varieties are comparatively new, and no one can speak authoritatively of what they will do over a wide range of territory. Still other varieties have been propagated by buds or grafts for a number of years, with the result that they have been tested fairly well over the country. Some of the varieties so tried have proved satisfactory, others have not. Of the older varieties, Stuart, Van Deman and Frotscher have been found satisfactory in nearly all cases, while Centennial and Rome have proved so unsatisfactory that they have been cut out of the lists of many propagators. It is doubtful whether a more worthless nut has ever been propagated and sold than that much-named variety, Rome, Columbian, Pride of the Coast, Century, Twentieth Century, etc. For the Florida planters, the best advice that can be given is to plant neither Centennial nor Rome. They either do not bear enough fruit or that which they do produce is inferior or poorly filled out. Van Deman, Stuart and Frotscher, on the other hand, have generally borne full crops of nuts of good quality.

A satisfactory commercial pecan nut must be prolific, of good size, good quality, must not be spasmoric in its bearing, plump, with a bright, presentable exterior and preferably a light-colored kernel. The nuts should, besides, yield sixty per cent. or upward of kernels. All these things in one variety make a difficult combination to secure. Undue weight must not, however, be given to size, for size and quality are usually antagonistic to each other. In fact, in pecans, as in other fruits, we must go to the small or medium sized ones for the best quality. No variety of pecan is superior to San Saba in quality, yet it is a small nut. Other varieties which may be regarded as standards of quality are Schley and Curtis. The former is a medium to a large nut and medium prolific variety, while Curtis is of medium size, precocious and prolific.

Moneymaker is reported as doing well in Louisiana, and, being a medium-sized nut, it is likely to succeed in Florida; but the shell is rather thick. Georgia has proved to be a prolific and precocious bearer. Nearly all of the varieties given in the following list have been reported upon favorably by different growers.

In planting pecans, no greater mistake than that of planting a large number of varieties can be made. At most, the plantings should be confined to four or five varieties. If the grower desires to experiment, and it is a good thing to do, then a tree or two of a number of other varieties should be included in order to test their merits.

Varieties Recommended.—The following list contains the varieties which are worthy the attention of Florida planters. Not all of them have been thoroughly tested as yet, and the reason for inserting them here is to urge that this be done — not in large numbers, not in ten-acre blocks, but in lots of two or three trees. In the meantime, until our knowledge of the varieties and their adaption is increased, the safest advice that can be given the Florida planter by the writer is to confine himself to such well known varieties as Curtis, Frotscher, Schley, Stuart, Van Deman. This list for planting in the western part of the State may be supplemented by Bolton, Sweetmeat, and Georgia. Pabst and Russell are also much in favor with a good many growers. Continued improvements in those we have and equally as valuable additions are, of course, to be expected and are being added from time to time.

REMARKS.

While we believe pecan growing to be a fine investment, we advise conservatism; do not plant more than can be properly cared for; the industry has come to stay, and with time it will grow to vast proportions. We do not believe that any person living today will ever see the demand wholly supplied, let alone a glutted market. The best grade of pecans are bringing about 50 cents per pound, but if this price is reduced in time as low as ten cents per pound there is more money in growing them than there is in most of the standard crops under good management. So we say to the young or the middle-aged man or woman engaged in, or about to engage in, either general or special farming, to plant pecans in proportion to their ability to care for them properly—it will pay them.

SUGAR PRODUCTION IN FLORIDA.

CANE CULTURE AND SIRUP MAKING.

By R. E. Rose, State Chemist, Tallahassee, Fla.

The culture of sugar cane, and the manufacture of raw sugar or sirup in Florida, dates from the earliest settlement. The plant was introduced by the Jesuit Fathers and largely cultivated on the East Coast, near St. Augustine and New Smyrna, by the early Spanish settlers, the canes having been introduced from the West Indies, where it was cultivated on a commercial scale as early as 1518. The remains of sugar factories, and evidences of sugar culture on an immense scale, are still found at New Smyrna in the Turnbull hammock. A drainage system is still in use, established by sugar and indigo planters more than two hundred years ago. There is no reason to doubt that Florida was the first of the United States to cultivate and manufacture sugar on a large scale.

ANCIENT MACHINERY AND METHODS EMPLOYED.

I regret to say that the same primitive methods used in those ancient days still prevail, and that a modern, economical sugar factory does not exist in the State today. To this fact, and the lack of modern apparatus, I attribute the present condition of the industry. No effort has been made to improve the wasteful two-roller horse mill, with wooden frame, and the old Jamaica kettle set in a clay furnace, the mill extracting not exceeding 50 per cent of the juice, and frequently less, while the kettle, juice trough and skim barrel account for a loss of 20 per cent or more of the small quantity secured by the mill. I am convinced, by observation of a number of sirup plants in the State, that, on an average, not to exceed 40 per cent of the sugar content of the cane is secured, and that 60 per cent is wasted after producing the cane and hauling it to the mill. The methods generally pursued in Florida are as primitive as those still followed in Mexico and South America. A few modern sirup plants have been erected, notably in Gadsden and Jackson Counties.

MODERN APPARATUS REQUIRED.

A modern factory, with improved mills, evaporators, filters, bagasse burners and other modern labor-saving devices, properly constructed clarifiers, filters, etc., will readily secure double the quantity of sirup or sugar, of a much better quality, from the same amount of cane, than can possibly be accomplished by the crude and wasteful apparatus universally employed in Florida today; at far less cost.

ONLY CRUDE METHODS EMPLOYED.

In no other agricultural and manufacturing enterprise has the farmer and manufacturer failed to take advantage of the improvement in methods and machines. I can only attribute this to the generally accepted belief that cane growing and sirup making, even under the present crude and wasteful method, is considered a most profitable business. I have talked with hundreds of farmers in all parts of the State, from Pensacola to Key West, from Jacksonville to Tampa, and have yet to meet one who did not positively assert that he derived more cash, with less labor per acre, from his cane patch than from any other crop.

MAXIMUM TONNAGE PRODUCED.

The fact that we produce crops of cane of from fifteen to thirty-five tons per acre, with an easy average of twenty tons, cannot be gainsaid.

QUALITY OF CANE SUPERIOR.

That this cane is equal to any in sugar content, and far superior to that grown in other States, cannot be denied. Too many tests and analyses have been made from canes taken from all parts of the State, and from all kinds of land, by eminent chemists and sugar makers, who have unqualifiedly stated that our canes are equal to any, and superior to most, grown in America, or even in Cuba, to permit a doubt to exist as to the peculiar advantages of Florida's soil and climate for producing a plant of maximum tonnage and sugar content.

IMPROVED APPARATUS IN LOUISIANA.

Louisiana for years struggled with the horse mill and open kettle, making brown sugar and molasses. This had to be sent to the refinery and treated by the old "clay process." Gradually the methods of the refiners improved, clarification was perfected, filters were improved, the juice was made chemically and mechanically clean, the vacuum pan was evolved, which led to the "double effect" (or vacuum evaporator), the mill was increased from two to three, then five then six, and now nine rollers are used. The extraction formerly thought very good at 60 per cent has been increased to 83 per cent, leaving practically only the dry fibre of the cane. The fuel bill, formerly three cords of wood, or equivalent in coal, per acre, has been eliminated, the pulp or bagasse of the cane, in a well-balanced modern factory, furnishing all the necessary fuel for all purposes. The evolution in the sugar factory of Louisiana has been in keeping with the progress along all other lines. Twenty years ago the modern "central factory" was the exception; today it is the rule; there are hundreds of such factories in Louisiana, handling from 500 to 1,200 tons of cane per day, making large profits, while selling granulated sugars at 4½ to 5 cents per pound. These factories extract and produce fully 100 per cent more sugar from a given amount of cane than can possibly be secured by using the antiquated mill and open kettle. At the same time, the quality is such that the value of the sugar per pound is increased from 3, to 4½ or 5 cents, or from 50 to 65 per cent increase.

Raw Sugar, or Sirup, Compared to Refined or Pure Sugar.

A ton of cane, producing 90 pounds of raw sugar, worth $2.70, will, with improved apparatus of large capacity, produce 180 pounds of granulated goods, worth not less than 4 cents per pound, or $7.20, while the cost of producing this 180 pounds of granulated goods will be less than to produce the 90 pounds of brown sugar.

Beet Sugar Factories Employ Only Improved Machinery.

The only reason why it is possible to make beet sugar profitably is the fact that none but the most modern apparatus is used, making it possible to secure all the sugar, at the least possible cost, from the beet, a plant well known to be inferior to tropical cane in average sugar content and also containing larger percentages of impurities. No beet sugar factory would attempt to make raw sugar and sell it to the refiners at the price fixed by the refiners. The result would be disastrous to the grower and manufacturer of raw sugar. On the contrary, the beet sugar factory makes none but the finest granulated goods, goes directly into the market, and demands and receives the market price fixed by the sugar refiner for first-class goods. The culture of beets is one of the most precarious and difficult crops known, requiring extraordinary skill and immense labor; the crop is subject to many disasters; in infancy it is delicate and easily destroyed by adverse climatic conditions; it requires skillful culture, heavy fertilizing and proper irrigation. When ready for harvest the work must be promptly finished, the crop stored free of frost, and carefully handled at all times. Five acres per hand for culture is a fair task, while a yield of ten tons, with an average of 12 per cent sugar, is a fair average yield, or 2,400 pounds of sugar per acre, paying the grower a maximum of $5.00 per ton of beets, or $250.00 per annum for culture, harvest and delivery of five acres of beets, with a total failure expected two years out of five from drought, rain or frost.

SUGAR CANE A RUGGED, ROBUST PLANT, EASILY CULTIVATED AS INDIAN CORN.

To a Florida audience I need not say that cane is a robust, rugged plant, as easily cultivated as corn, requiring no thinning to a stand at enormous cost of labor, no special care, and seldom properly fertilized; still, I have yet to learn of a total failure of a cane crop from drought, flood or insect pest.

ACREAGE PER MAN EMPLOYED.

Twenty acres per hand, with a yield of 20 tons of cane per acre, is not unusual. (With the same amount of fertilizing and labor as demanded by beets, one man can grow 30 acres, with an average of not less than 25 tons of cane per acre, that will yield in a modern factory 10 per cent of pure granulated sugar per ton of cane, or 5,000 pounds per acre, or 125,000 pounds per hand used in culture.) Understand that while one man can cultivate 20 acres under ordinary conditions (and 30 if he works as hard and constantly as the beet grower), no one man can harvest such a crop, nor can the beet grower harvest his five acres without help. This cane, delivered at the factory, will furnish practically all the fuel necessary. The beet factory must use coal. This, however, is offset by the value of the beet pulp for feeding purposes; still, the beet factory is, compared to the cane sugar factory of equal capacity, more costly, while the process of manufacture is more complicated and expensive. The extraction, clarifying, filtering and purifying of beet juice, owing to the large amount of impurities, is far more difficult than in handling cane juice. Raw beet sugar is not fit for consumption by man or beast. This fact has had much influence on the industry and forced the employment of the best and most scientific methods in beet sugar manufacture. Cane sugar, as we all know, is a most palatable and nutritious food, from the cane itself up through the various preparations of sirup, raw sugar, molasses candy, to refined sugar, or rock candy. In no stage can it be said sugar cane and its products are not fit for food.

COST OF CANE SUGAR, COMPARED TO BEET SUGAR.

I have frequently stated, and again assert, that first-class granulated sugar can be made from Florida cane at a large profit when selling the sugar at less than it costs to produce beet sugar. That if these facts were intelligently placed before the American farmer and capitalist, the enormous sums now being invested in beet culture and manufacture would be diverted to the sugar belt of the South, and particularly to Florida.

FACTS DEMONSTRATED.

It requires no experimentation, there are no facts to demonstrate, they are here ready for investigation; the plant, the amount it will produce per acre, its sugar content, the cost of production, in labor and time; these factors are the only ones that need to be authoritatively established by our Agricultural Department, or by our own people, to induce the influx of labor and capital.

While I am not an advocate of sirup making as a general industry, knowing that it is but a crude and wasteful method, and at most but an expedient, still, a well-made sirup, cleanly prepared, properly clarified and neatly packed, is in demand at fair prices and will pay fair dividends on the investment.

CENTRAL FACTORIES NEEDED.

Until our people are educated to the necessity and value of "central factories," where the farmer may sell his cane direct to the factory for more than he now gets for his sirup, it will be well to encourage the sirup industry. Provided none but the best is made, top prices may be expected; if thin, dirty, dreggy slops, packed in a sour keg or dirty barrel, is produced, it is only fit for the pigs—and not good for them.

WHAT GOOD SIRUP IS.

In making sirup (good sirup), the object is to produce a thick, clear liquid, that will not granulate or "sugar off." It may be startling to a number of my auditors when I assert that first-class sirup contains but comparatively little sugar. A first-class sirup, be it made from cane, maple sap, corn, rice, potatoes, beets, watermelons or other vegetable substance, is but a solution of glucose, or "invert" sugar, with no appreciable quantity of sucrose, or sugar; hence, to make a good, thick, heavy, clear sirup, we proceed to change our sugar to glucose, or "invert" sugar, exactly opposite to the desire of the sugar maker. The sugar maker seeks to prevent the "inversion" of his sugar to glucose, and to get his sugar to the "grain" as quickly as possible; he desires as little glucose as possible, and separates the molasses and glucose from his crystals as rapidly as possible.

Starch, glucose and sugar are all closely related, all carbo-hydrates—the basis of fats in animals, which are hydro-carbons. The difference between sugar and glucose is but the addition of one molecule of water. Sugar being "C_{12}, H_{22}, O_{11}," by adding one molecule of water ("H_2O") we have glucose—"C_{12}, H_{24}, O_{12}." By the adition of water, in the presence of heat, acids or ferments, sugar takes up a molecule of water and becomes glucose. Starch also in the presence of an acid and heat, or a ferment, becomes glucose.

Sugar does not ferment, it must become glucose, "invert" sugar first; neither does starch ferment, it must also be changed to glucose before it ferments. Another fact to be remembered is that glucose, in the presence of heat and moisture, will attack and convert sugar into glucose; by the action of long-continued heat the whole of the sugar will be converted or "inverted." A quantity of pure sugar, dissolved in pure water, kept simmering on a stove for some time, the evaporation supplied will in time become a solution of "invert" sugar, with no sugar (sucrose) in it. If the juice of an apple, orange or a few grapes, or other acid fruit, is added to the vessel the "inversion" will occur more quickly.

Cane juice is a solution of sugar, glucose and other solids and gums. Ripe cane has but little glucose—frequently less than 1 per cent, generally 2 to 2½ per cent. Unripe cane has a much larger percentage of glucose, sometimes as much as 50 per cent; the immature tops of cane are always high in glucose and poor in sucrose, or sugar. Evidently the starch in the cane (or what would be starch in corn, rice or potatoes,) is first formed in the immature part of the cane. It is by the subtle chemistry of nature changed into sugar, a chemical feat the despair of the most eminent scientists. To change a sugar into glucose is a daily performance in the laboratory and factory; to remove the molecule of water and change glucose to sugar has been the dream of the chemists for years; so far it has not been acomplished.

SUGAR MAKING DISTINGUISHED FROM SIRUP MAKING.

Knowing now the materials we have to deal with, and their behavior in the presence of acids, heat and ferments, we can proceed to prepare the substance we require. If we want sirup, we do not demand ripe cane, which the sugar maker requires; a quantity of glucose in the unripe tops will do no harm, hence we begin grinding when the canes are ripe from one-half to two-thirds the length of the stalk (say October 15), though ripe cane makes more sirup in proportion than unripe cane. Unripe cane will make good sirup, but not good sugar. Ripe cane, quickly "boiled off," will certainly granulate if boiled to the proper density; unripe cane can hardly be made to granulate by the most expert sugar makers.

Ripe Cane for Sugar.

To make sugar, use ripe cane, cut off the immature tops, leaving as little unripe cane as possible, clarify and evaporate rapidly, place in coolers of large area to allow quick cooling and granulation.

Unripe Cane May be Used for Sirup.

For sirup making, use considerable unripe tops; do not hurry the process at any point; the juice may stand in the tank for some time (one or two hours), a little ferment will not hurt it; clarify and skim at a moderate heat; evaporate slowly, and skim carefully. This slow evaporation will insure a heavy, non-crystalable sirup.

Much of the excellence of Florida sirup depends on the slow evaporation in deep kettles, with great heat long continued, the delay in the juice barrel between strikes, and the large amount of ferment necessarily added to the juice by the mill with its wooden frame and the sourness of the various strainers and utensils used. The mill is seldom washed off, and is never "limed" to destroy ferment.

The evaporator is never a favorite with sirup makers; they can't boil thick before the sirup sugars. This is a fact. If, however, larger quantities were run at a time, and the fire kept low, equally as good sirup could be made on the evaporator as in the kettle. For practical purposes, on a fairly large scale (10 to 20 barrels, or 400 to 800 gallons, per day of sirup), I should advise a separate clarifier and a partial evaporator, and finish in a separate vessel. The secret of good sirup is perfect clarifying and straining, careful and continuous skimming, and plenty of time given to the evaporation, using more or less unripe cane, with some fermentation allowed. Boil your sirup to a uniform density of about 33 degrees Beaume, while hot; this will yield a sirup of about 38 degrees Beaume, when cold. These saccharometers can be purchased of any instrument dealer, or can be ordered through any druggist. They are absolutely necessary for uniform work.

Apparatus.—The first prerequisite is a first-class horizontal mill, well built and exceedingly strong, to extract the juice; such a mill can only be had from manufacturers who have had long experience in building sugar apparatus. A first-class three-roller mill, properly set, will extract 60 per cent of the weight of cane in juice, or 70 per cent of the total juice. The clarifiers and evaporators should, if possible, be steam-heated, the coils made of copper, for economical reasons. Copper conducts heat better than iron; while iron pipes will make as good sugar, they will require 40 per cent more fuel to do the same work; a copper coil will work better with 60 pounds of steam than an iron coil with 100 pounds.

ADVANTAGES OF STEAM APPARATUS.

The advantage of a steam train is obvious; the manipulator has absolute control of the heat and can regulate it as circumstances demand. A fire-heated evaporator cannot be so perfectly regulated. In either case, steam or fire-heated evaporators, I strongly advocate a copper heating surface, on account of fuel economy; the difference in cost will be more than offset during the first season. There are a large number of reliable manufacturers of first-class apparatus who can, and will, furnish apparatus at far less than they can be designed and built for locally. A "home-made" apparatus is most expensive and unsatisfactory.

Culture.—It is useless for me to attempt to instruct Florida farmers in cane culture. The methods are fully understood by them. I can only say that a large part of the culture should precede the planting. The bed should be deeply plowed and in perfect tilth before planting. I prefer fall planting, particularly in South Florida. By having the ground ready, the planting can be done at the time of grinding, using the immature tops for seed. An acre of tops should plant more than an acre of new land. In South Florida, cane should yield at least three good crops from one planting; frequently, with proper care, it will last five or six years. The culture should be shallow, at all times working a low ridge around the cane. For fertilizing, nothing is better than cow-penning, which, however, should be re-inforced by 150 to 200 pounds of high grade sulphate of potash (45 to 50 per cent of potash) and 500 to 1,000 pounds of 16 per cent acid phosphate. Cane requires potash to mature its juices, as does all fruit or sugar-producing plants. A general fertilizer for cane should have about three proportions: Ammonia 3, phosphoric acid 6, potash 4. Cotton seed meal, acid phosphate and kainit mixed in equal parts and applied, 1000 pounds per acre, will give most excellent results; this will yield the necessary fertilizing elements in about the correct proportion.

At present prices, this fertilizer should not cost to exceed $25.00 per ton at seaports. One thousand pounds per acre should insure a crop of not less than 20 tons of cane per acre, with an average of 10 per cent sugar, or 4,000 pounds sugar per acre, or 400 to 500 gallons of first-class sirup per acre, using a first-class apparatus and exercising due economy. About one-half this amount can be secured with the usual apparatus now generally employed in this State.

Varieties of Cane.—There are a number of different canes, probably seventy-five or more known varieties. In many cases the same cane is known by different local names. There are not to exceed a dozen kinds that are valuable in Louisiana and Florida, of which probably three distinct kinds are worth considering. The "Crystaline," from which a number of different canes have originated, is generally considered best; the "Red Bibbon" and the "Purple" canes come next. The large white or Hawaiian cane is largely planted in Florida; it is a favorite for chewing. It is a slow grower, late in starting, and does not rattoon perfectly.

The "Crystaline" is considered the best all-around cane. It is known by many local names. It rattoons well, is early in sprouting and ready to "lay by" by May 15; its sugar content is high and impurities small.

The "Red Ribbon" is also an excellent cane, and inferior to the "Crystaline" only in the fact that it does not rattoon so perfectly.

The "Purple," or Bourbon cane, is a hardy cane, smaller than either of the others named; its sugar content is equal to the "Red Ribbon" or "Crystaline"; it is well adapted to North Florida, and is almost exclusively cultivated in Georgia; it will stand more frost than the "Crystaline" or "Red Ribbon."

A new seeding cane, perfected by Dr. William C Stubbs, recently Director of the Louisiana Sugar Experiment Station, known as "Demarrara No. 74," has been largely introduced into Louisiana. It is a robust, hardy green cane, with a much larger sugar content than the ordinary canes; a heavy producer, with but few impurities. It has not yet been extensively introduced into Florida. Where it has been tried it has been found desirable, being early in maturity and has a much larger sugar content—10 to 15 per cent more than the ordinary varieties.

A variety known as the Japanese cane was introduced from the Louisiana Sugar Experimental Station some fifteen years ago; it rattoons profusely and will grow on high pine land, making heavy crops where ordinary cane would fail to produce profitable crops; it makes first-class sirup, but is not considered a first-class sugar-producer on account of its high percentage of glucose, and solids not sugar. I believe it will be of great value to those situated on high pine ridges, and as it stands frost better than ordinary cane, it will be an acquisition to North Florida and Georgia.

PREPARATION OF SOIL—PLANTING.

Soil for cane(or corn)should be well drained and deeply plowed; not less than six inches—preferably eight or more inches, depending on local conditions. This should be done as early as practicable in the fall, not later than November 15 for spring planting; if for fall planting, in October. The soil should be well harrowed, putting the seed-bed in first-class tilth. The fertilizer should be spread, or scattered, broadcast, and thoroughly harrowed in before planting. Fall planting should be done in November; spring planting in February or March. Rows should be opened six feet apart, four inches deep; the seed canes laid in the furrow, continuously, lapping each cane one or two joints, if the seed is sound and the eyes perfect. In case of damaged seed cane, more is required; frequently "two canes and a lap" are needed; the object being to get one sound eye for every six inches of row, to insure a good "stand." Cover fall-planted cane four inches deep, in the spring, when germination has begun; remove part of the covering, to allow the heat and air to penetrate the soil. Much cane is lost from too deep planting. For spring planting, cover not more than two inches deep.

Germination will frequently begin in North Florida in February; in Middle Florida in January, when part of the covering should be dragged off, to assist in germinating. In tropical Florida below the 28th parallel, cane will sprout and grow at any time, and can be planted whenever convenient.

CULTIVATION.

The culture of cane is exactly similar to the culture of corn; one of the best tools for early cultivation is the "weeder." It can be used at any time from the planting, and run in any direction—with the rows or across them—and can be used exclusively until the cane is two feet high, after which a cultivator should be frequently run in the rows. The culture should at all times be shallow, not to disturb the root system. A turn-plow should never be used to cultivate cane. Continue cultivating till the cane completely shades the ground. Allow no weeds to grow in the rows, nor the middles, at any time.

HARVEST.

Harvest begins in Louisiana October 15—though the cane is far from mature at this date. The large areas, however, demand early harvest. In North Florida, November 1 to 15; in South Florida, December 1; below the 28th parallel, harvest may be delayed till January 1, and is frequently continued till March 15, sometimes till April 1, the climate being practically similar to Cuba, adding full sixty days' growth and maturity to the crop.

That portion of the plant which has shed its blades or leaves is mature; that part to which the leaves still cling, the tops, is not fully mature. Generally two-thirds of the stalk is matured by November 1st.

When ready for harvest, the cane should be stripped of its leaves, to allow the sun to mature the juices—a lath is a good tool for this purpose. Enough cane should be stripped at one time to supply the mill several days.

CUTTING CANE FOR SIRUP.

When cutting cane for sirup, top it high, to leave two or three of the upper, unripe, immature joints; this immature cane juice is largely glucose, or "invert" sugar, and tends to prevent crystallization.

CUTTING CANE FOR SUGAR-MAKING.

In cutting cane for sugar-making, top low, using only the fully matured or ripened cane. Cut only what is necessary to supply the mill each day. Only fresh-cut cane should be used for making sugar.

FERMENTATION.

A slight fermentation will not damage cane for sirup-making, adding to the "invert" sugar (glucose) and allowing the sirup to be boiled thick without danger of crystallizing.

A very small amount of fermentation will materially damage cane for sugar-making, increase the "invert" sugar—molasses, and decrease the crystals of sugar in proportion to the amount of glucose present. Fermented cane cannot be made into sugar, though with proper care it may be worked into fair sirup.

EXTRACTING—MILLING.

Use none but a heavy, well-made mill, with large shafts, requiring not less than two good animals to pull it.

A steam-power, horizontal mill should be used when there are more than twenty acres to harvest.

The pulp (or bagasse), when passed through the mill, should be broken into short, dry fragments, apparently free of juice. When passing the mill as flat ribbons, unbroken at the joints, it has not been well ground, and still has a large percentage of juice left in it. A well-set horse mill can be run to extract 60 per cent of the weight of the cane in juice, leaving 25 per cent still in the cane (cane is composed of 85 per cent juice and 15 per cent of dry fibre).

Seldom do horse mills extract more than 50 per cent of juice, leaving 35 per cent in the cane. A well-designed, powerful, six-roller steam-power mill will, when kept properly set, extract 75 per cent, still leaving 10 per cent of juice in the cane. Seldom do steam mills extract more than 75 per cent of the weight of cane in juice.

The most powerful steam mills — nine rollers, with crusher and "saturation" between the last six rolls—average not to exceed 80 per cent of the juice, or 93 per cent of the total sugar in the cane.

A mill extracting less than 65 per cent of the weight of the cane in juice is not an economical apparatus. A good steam-power mill, with six rolls, will average 75 per cent, a gain of practically 20 per cent in sirup or sugar.

Few cane growers realize the enormous losses they sustain by using inferior mills.

STRAINING AND CLARIFYING.

Between the mill and the juice tank, or barrel, a coarse wire strainer should be placed, to remove coarse particles of cane or leaves; under this a gunny-bag strainer; below this a coarse muslin or cheesecloth strainer. Needless to say, these strainers must be kept clean and frequently changed. They should be stretched on hoops, like sieves, and a number kept on hand for changing. From the mill to the juice tank, near the clarifier, or evaporator, a pipe should be run—generally below the ground, not to interfere with the team. At its outlet another strainer of flannel, or "filter cloth," should be placed.

Thorough straining wonderfully reduces the labor of skimming and greatly improves the quality of the sirup or sugar.

The juice tank at the mill need not be of great capacity. It serves only as a funnel for the pipe to the larger juice tank near the clarifier or evaporator. This tank should hold at least sufficient for a charge (or run) of well-strained juice; it also acts as a settling tank and removes large amounts of heavy impurities that settle to the bottom. It should be cleaned at least once a day, and well washed out.

MILK OF LIME FOR CLARIFYING.

The universally used clarifying agent in all well-conducted sugar or sirup factories is a mixture of *freshly burned quicklime and water.* Air-slaked lime will not answer the purpose, and should not be used. To prepare this "milk of lime," use one pound of quicklime to one gallon of water, thus having two ounces of lime to each pint of the mixture.

Place 40 pounds of quicklime in a 40-gallon barrel; slake it with water; when it is thoroughly slaked, add water to make 40 gallons (if the water is at all times above the lime it will keep indefinitely, fit for use).

Before dipping out a portion for use, stir the "milk of lime" thoroughly to get the necessary lime suspended in the portion to be used. It should be about like thick whitewash.

For each 50 gallons of raw, strained juice, use one pint of this "milk of lime." Take one pint of "milk of lime," add one gallon of water; stir it well to suspend the lime; scatter this over the surface of the juice in the evaporator or clarifier; distribute it well and mix it thoroughly with the juice.

SKIMMING.

Bring the juice to a boil quickly, but do not let it "boil up;" when the "green blanket" forms and begins to "crack," draw the fires, or turn off the steam. Remove the blanket of green scum quickly and carefully. Don't let the scum fall back into the juice at any time.

After cleaning carefully, renew the fires, or turn on the steam; skim continuously and carefully, while evaporating; evaporate with moderate heat for sirup, quickly for sugar.

ACIDITY.

Normal cane juice is always slightly acid. If cane has been cut some time, or exposed to the sun for some time, it frequently becomes quite acid (ferments). The lime is to neutralize this acid—coagulate the gums and albumins. Practically all the lime is removed in the scums, or the settlings.

CAUTION.

The amount of lime recommended—one pint of "milk of lime," equal to two ounces for each 50 gallons of juice—is but approximate. Very ripe cane, sweet and unfermented, may require less; green or sour cane, more than indicated.

For sirup-making, the juice should at all times have a slightly acid reaction; for sugar-making, it should be neutral—neither acid nor alkaline.

TEST FOR ACID.

A few sheets of Blue Litmus paper should be procured. Cut this into half-inch strips, about four inches long, and keep in a dry bottle. Before liming the juice, dip one of these strips into the juice. The blue paper will at once be turned pink or red, depending on the amount of acid present. After liming, dip another strip into the limed juice. It should show but a pale pink. If it remains blue, you have too much lime, and raw juice should be added till you get a faint pink color on the paper. Juice for sirup should always be slightly acid, turning the blue paper a faint pink.

BOILING.

For Sirup.—After thorough clarifying and skimming, boil steadily and slowly (skimming all the time) till the sirup makes 33 degrees.

For Sugar.—Boil off as quickly as possible, until the saccharometer shows 36 degrees.

BEAUME SACCHAROMETER.

For uniform sirup or sugar-making, an instrument (a hydrometer) called a "Beaume Saccharometer" is absolutely necessary. These instruments cost 50 cents each, and can be had of any instrument dealer. Any druggist can order them.

In sirup-making, boil till a sample of the hot juice shows 33 degrees on the spindle, which will be about 38 degrees when cold.

Use a glass or tin cylinder about ten inches long for testing; fill the cylinder full of hot juice and drop the spindle in; it will float at the point of density of the sirup. Sirup should show 33 degrees when hot; for sugar, boil to 36 degrees, hot.

PACKAGES.

The finished sirup should be bottled or canned, while still hot, in perfectly cleaned and sterilized bottles or cans, and sealed hot. Cans, corks, caps or covers should be boiled or steamed to sterilize them.

Barrels or other wooden containers cannot be successfully sterilized, and will certainly ferment in a short time. Any sirup, thick or thin, sealed hot, in sterilized cans or bottles, will not ferment until exposed to the air and becoming infected by the germs of fermentation. No harmless preservative (or anti-ferment) is known. Chemicals that will prevent fermentation will also prevent digestion, and are prohibited by good morals, as well as the pure food laws of the country.

CENTRAL FACTORIES.

A central factory for sirup or sugar, with an assured acreage of from 200 to 500 acres, where farmers can furnish from 10 to 20 acres without too great a haul, should be a most profitable investment. Such a factory should purchase cane on the basis of one-half the sirup or sugar made; the farmer purchasing necessary packages if he prefers to take his share "in kind," rather than accept the value of his half at the factory without packages. The amount of sirup or sugar in the cane is readily determined by the specific gravity of the juice at the mill. With a good mill and modern apparatus, a yield of 30 gallons per ton of average ripe cane of 8 degrees Beaume can be expected. This sirup should be worth 30 cents per gallon at the factory, or $9.00 per ton of cane, of which the farmer should receive $4.00; at 20 tons per acre his gross yield is $80.00; by proper fertilizing and culture, he can increase both the sugar content and the tonnage; 30 tons are frequently made, while 40 to 60 tons have been produced per acre on the rich hammock and muck lands of the State, when properly drained, fertilized and cultivated.

Sirup Packages.

Packages for sirup should not exceed five gallons each, while one-gallon cans and quart bottles, neatly labeled and sealed hot, to insure the preservation of the aroma and peculiar flavor of well-made cane sirup, are preferable. A fair price for good sirup in five-gallon cans is from 40 to 60 cents per gallon, while quart bottles will sell from 60 cents to $1.00 per gallon. Five-gallon cans will cost 25 cents delivered, each, or 5 cents per gallon; one-gallon cans will cost 10 to 15 cents each, while quart bottles will cost 5 cents each. These prices, of course, can be reduced by purchasing in car lots, or by purchasing the material and having the cans made at the factory, as is done in most canning establishments. The freight on ready-made cans is a very large item of expense. An outfit for making cans is not expensive, while the skill required is not great.

U. S. Department of Agriculture.

This question is of such importance that the United States Agricultural Department has recently undertaken a series of experiments in Georgia and Florida. along the line of sirup-making. I believe our State could make no better investment than to establish a sugar experimental station in Florida, along the lines of the Louisiana Sugar Experimental Station, which has added enormous sums to the profits of our Louisiana sugar planters; has educated numbers of practical sugar growers and sugar makers. This station would soon be a self-supporting and self-sustaining institution, and should be run on practical, as well as scientific, principles, and thus train our young men to "know how," as well as to "know why," certain processes will yield certain results.

BULLETINS AND LITERATURE.

I would suggest to all those interested in sugar cane, sirup and sugar-making, to write to the Louisiana Sugar Experimental Station, at New Orleans, for a copy of "Sugar Cane," by Prof. William C. Stubbs, Director of the Louisiana Sugar Experimental Station (enclosing 50 cents for the same); also, to obtain from the United States Agricultural Department, Farmers' Bulletins Nos. 90 and 135, "The Manufacture of Sorghum Sirup." The apparatus and methods therein recommended are equally applicable to the manufacture of sirup from cane.

During recent years experiments under the direction of the United States Agricultural Department have been made in Florida and South Georgia in manufacturing sirup from sugar cane. A report, covering a number of analyses of soils, and a larger number of analyses of cane has been published in these bulletins, Nos. 70 and 75, of the Bureau of Chemistry of the United States Agricultural Department. This report sustains the position assumed by myself and others that Florida and South Georgia produce cane equal to any country in sugar content, and that the tonnage compares favorably with more tropical territories.

Average Analysis of Florida Cane.

The average from Florida and Georgia shows:

Sucrose, or pure sugar	12.08 per cent.
Glucose, or reducing sugars	1.32 per cent.
Co-efficient of purity	79.50 per cent.

Summary.

While these general rules and directions are given, there are many "kinks" and conditions arising that require experience and skill to succeed in making a really good quality of sirup or sugar. The art of sugar boiling is like all other arts, and requires practice and skill to become an adept. While it is possible to tell "why" certain results should follow certain processes, one can only learn "how" by practice. Numerous failures may be expected. Some of the most skillful sugar boilers are unable to tell "why," but they do know "how" to produce the best results. There are numbers of chemists who, while they know "why" certain results are to be expected from given conditions and processes, have not the skill required to boil sirup or sugar successfully. "Sirup boiling" in all sugar-making countries is a distinct art, trade or profession; skillful sugar boilers frequently being paid as much, or more, than either the superintendent, manager, chemist or engineer of a sugar factory.

R. E. ROSE.

Tallahassee, Fla., September, 1910.

Dr. H. W. Wiley's Conclusions.

In conclusion, I quote from Prof. H. W. Wiley, Chief Chemist, United States Agricultural Department:

"The problems connected with the sugar and starch products are four or five in number.

"First of all, the soil is to be considered and, therefore, agricultural interests should pay some attention to staple crops—that is, crops that have a market the year around and can be preserved and marketed at any time. Sugar and starch are types of such crops. These substances take absolutely nothing from the soil; they are fabricated by the plant from the atmosphere and water; hence, the sale of such products does not tend to impoverish the soil.

"The soils of Florida are largely of a sandy nature *** *** *** Sandy soils are not suitable for producing wheat, for instance, but they are well adapted for producing sugar and starch. In Florida, it is more a question of climate than of soil, since, with a favorable climate, scientific agriculture will produce a crop from almost any kind of soil.

"The second problem to be considered is that of fertilizers. Perhaps there is no State more favorably situated than Florida in respect of fertilizers. You have here inexhaustible deposits of phosphate. In the leguminous crops which grow here—namely, peas, beans, alfalfa and beggarweed grass—you have a most valuable means of assimilating nitrogen from the air. In cotton seed, fish scrap and other animal refuse, you have access to large stores of nitrogen. Through your seaports, stores of fertilizer materials, such as nitrate of soda and potash salts, can be brought from South America and Germany. It would be hard to find any other portion of our country where fertilizers could be sold more cheaply than in this State.

"The third problem is the character of the market. This country is the greatest sugar and starch consumer in the world. We use more than 2,000,000 tons of sugar annually. Of this quantity, before the Spanish War we made only about 300,000 tons—about one-seventh of all.

"Since the Spanish War we have acquired Hawaii, Porto Rico and the Philippines, all of which gives us large additional quantities of sugar. This year we will produce about 100,000 tons of beet sugar, so that at the present time it may be said that we produce about one-third of all the sugar we consume; but still there is a vast foreign market, which we might supply with a home product.

"There is no danger, therefore, of overstocking our own market with increased sugar productions, nor is there danger of the beet sugar driving the cane sugar out of the market. For many purposes—as, for instance, the manufacture of sirup—beet sugar is unsuitable, and there will always be a demand for all the cane sugar that can be made.

"The sugar crop of the whole world for the present year is about 10,000,000 tons, of which nearly 7,000,000 tons are made from the sugar beet.

"The sugar beet cannot, however, be grown in Florida profitably. Here you must depend on the sugar cane for sugar, and upon the cassava and potato for starch. From starch, glucose can also be made, and it seems to me that in the near future the glucose industry will pass from the Indian corn belt to the cassava and potato belt. In one particular industry Florida and the southern parts of Georgia and Alabama stand pre-eminent, and that is in the manufacture of table sirup from sugar cane. It is important, however, to secure uniform grades to hold the markets of the world, and this can only be accomplished by mixing together the products of small farmers, or by the establishment of central factories, where the cane grown in the neighborhood can be manufactured under standard conditions.

"By the development of these great industries, sugar and starch making, including table sirups, untold wealth will in the near future flow into Florida.

"From by-products of the factories, immense quantities of cattle food can be obtained, both from sugar cane and the starch-producing plants. Thus, a dairy industry can be established in connection with sugar and starch making, which will add much to the wealth of the State."

FUNGICIDES, INSECTICIDES AND SPRAYING CALENDAR.

Many of these mixtures can be obtained already prepared from reliable dealers, which saves much time and trouble in mixing them. The following precautions should be taken into consideration:

1—Care should be taken to keep all substances employed in spraying where they cannot be gotten at and used by mistake. All substances should be correctly labeled.

2—Solutions and mixtures containing copper sulphate, corrosive sublimate and arsenate of lead should be made in wood, glass or earthern vessels.

3—Arsenical solutions should not be applied to fruits, etc., within two weeks of the time they are to be used as food.

4—Trees should not be sprayed when they are in blossom, as the bees, which are necessary to fertilize the flowers, may be destroyed.

5—Florida growers interested in spraying and other means of checking insect pests, not fully covered in this article, should write the director of the Florida Experiment Station at Gainesville, for further information.

FUNGICIDES.

1 Bordeaux Mixture.

4 pounds copper sulphate (blue vitrol.)
4 pounds lime (unslaked.)
25-50 gallons water.

Dissolve the copper in hot or cold water, using a wooden or earthen vessel. Slake the lime in a tub, adding the water cautiously and only in sufficient amount to insure thorough slaking. After thorough slaking, more water can be added and stirred in until it has the consistency of thick cream. When both are cold, pour the lime into the diluted copper solution of required strength, straining it through a fine-mesh sieve or a gunny cloth, and thoroughly mix. The standard mixtures are:

(a) 25 gallons (full strength solution, or 4-4 25 formula.)

(b) 50 gallons (half strength mixture, or 4-4-50 formula.)

It is then ready for use. Considerable trouble has frequently been experienced in preparing the Bordeaux Mixture. Care should be taken that the lime is of good quality and well burned, and has not been air-slaked. Where small amounts of lime are slaked, it is advisable to use hot water. The lime should not be allowed to become dry in slaking, neither should it become entirely submerged in water. Lime slakes best when supplied with just enough water to develop a large amount of heat, which renders the process active. If the amount of lime is insufficient, there is danger of burning tender foilage. In order to obviate this, the mixture can be tested with a knife blade or with ferro-cyanide of potassium (1 oz. to 5 or 6 ozs. of water). If the amount of lime is insufficient, copper will be deposited on the knife blade, while a deep brownish-red color will be imparted to the mixture when ferro-cyanide of potassium is added. Lime should be added until neither reaction occurs. A slight excess of lime, however, is desirable.

The Bordeaux Mixture is best when first prepared. Stock solutions of lime and copper can be made and mixed when required.

2—The following, known as the 6-4-50 formula, is in very general use:

6 pounds copper sulphate.
4 pounds lime.
50 gallons water.

3. BORDEAUX MIXTURE FOR PEACH FOLIAGE.

The Bordeaux Mixture, as ordinarily applied, frequently injures to some extent the foliage of the peach, etc., causing a shot-hole effect on the leaves. This injurious effect has been shown to be largely obviated by the use of the following:

3 pounds copper sulphate.
6 pounds lime.
50 gallons water.

This is known as the 3-6-50 formula. Some experimenters have also recommended the following for peach foliage:

(a) 2-2-50 formula (Cornell Agr. Exp. Sta. Bull. 180.)
(b) 3-9-50 formula.

The latter contains three times as much lime as copper sulphate.

4 BORDEAUX RESIN MIXTURE.

5 pounds resin.
1 pound potash lime.
1 pint fish oil.
5 gallons water.

To make resin solution, place resin and oil in a kettle and heat until resin is disolved. Cool slightly and then add lye slowly and stir. Again place the kettle over the fire, add the required amount of water and allow the whole to boil until it will mix with cold water, forming an amber-colored solution. Take 2 gallons of the resin solution and add to it 10 gallons of water. Mix this with 40 gallons of Bordeaux Mixture.

Recommended for Asparagus Rust on account of its adhesive properties. (N. Y. Agr. Exp. Sta. (Geneva) Bull. 188.)

5 SACCHARATE OF COPPER.

4 pounds copper sulphate.
4 pounds lime.
4 pints molasses.
25 gallons water.

Slake 4 pounds of lime and dilute the same with water. Dissolve 4 pints of molasses in a gallon of water and mix with the lime. Stir thoroughly, and let it stand for a few hours. Dissolve 4 pounds of copper in 10 gallons of water and pour it into the lime-molasses solution, while stirring briskly. Allow the mixture to settle. Draw off the clear, greenish solution for use. Recommended in France as a substitute for the Bordeaux Mixture.

6 AMMONICAL COPPER CARBONATE.

5 ounces copper carbonate.
3 pints ammonia (26° Beaume.)
50 gallons water.

Dissolve the copper carbonate in ammonia. This may be kept any length of time in a glass-stoppered bottle and diluted to the required strength. The solution loses strength on standing.

7 EAU CELESTE.

(Blue Water.)

2 pounds copper sulphate.
1 quart ammonia.
50 gallons water.

Dissolve the copper sulphate in 6 or 8 gallons of water; then add the ammonia and dilute to 50 or 60 gallons of water.

8 COPPER CARBONATE MIXTURE.

1 pound copper carbonate.
40 gallons water.

Mix the copper carbonate with a small quantity of water to make a paste; then dilute with the required amount of water. For fruit rot of the peach, etc. (Delaware Agr. Exp. Sta., Bull XXIX.)

9 COPPER ACETATE.

6 ounces copper acetate (Diabasic Acetate.)
50 gallons water.

First make a paste of the copper acetate by adding water to it; then dilute to the required strength. Use finely powdered acetate of copper, not the crystalline form. For the same purpose, and of the same value, as the preceding forumla.

10 COPPER SULPHATE SOLUTION.

(*Strong Solution.*)

1 pound copper sulphate.
25 gallons water.

Applied only on trees without foliage.

11 COPPER SULPHATE SOLUTION.

(*Weak Solution.*)

2-4 ounces copper sulphate.
50 gallons water.

For trees in foliage.

12 POTTASSIUM SULPHATE.

3 ounces potasium sulphate.
10 gallons water.

Valuable for gooseberry mildews, etc.

13 Pottassium Permanganate.

1 part potassium permanganate.
2 parts soap.
100 parts water.

Recommended in France for black rot and mildew of the grape, etc.

14 Iron Sulphate and Sulphuric Acid.

Water (hot), 100 parts.
Iron Sulphate, as much as will dissolve.
Sulphuric Acid, 1 part.

Prepare solution just before using. Add the acid to the crystals, and then pour on the water. Valuable for treatment of dormant grape vines affected with anthracnose, application being made with sponge or brush.

15 Corrosive Sublimate.

(For Potato Scab.)

2 ounces corrosive sublimate.
15 gallons water.

Dissolve the corrosive sublimate in 2 gallons of hot water; then dilute to 15 gallons, allowing the same to stand 5 or 6 hours, during which time thoroughly agitate the solution several times. Place the seed potatoes in a sack and immerse in the solution for 1½ hours. Corrosive sublimate is very poisonous; consequently, care should be taken in handling it, nor should the treated potatoes be eaten by stock. The solution should not be made in metallic vessels.

16 Formalin.

(For Potato Scab.)

8 ounces formalin (40% solution.)
15 gallons water.

Used for the same purpose as corrosive sublimate, but not poisonous. Immerse the seed potatoes for two hours.

INSECTICIDES.

17 Paris Green—Dry.

1 pound Paris Green.
20-50 pounds flour.

Mix thoroughly and apply evenly, preferably when dew is on the plants.

18 Paris Green—Wet.

1 pound Paris Green.
½ pound quicklime.
200 gallons water.

Slake the lime in part of the water, sprinkling in the Paris Green gradually; then add the rest of the water. For the peach and other tender-leaved plants, use 300 gallons of water. Keep well stirred while spraying.

19 Arsenite of Lime.

1 pound of white arsenic.
2 pounds of fresh burned lime.
1 gallon water.

Boil together for 45 minutes and keep in a tight vessel. Add 1 quart of this to a barrel (50 gallons) of water. for use.

This insecticide has been recommended by a number of Experiment Stations, but has not yet been sufficiently tested at the Massachusetts Station to receive an endorsement.

20 Arsenate of Lead.

4 ounces arsenate of soda (50% strength).
11 ounces acetate of lead.
150 gallons water.

Put the arsenate of soda in 2 quarts of water in a wooden pail, and the acetate of lead in 4 quarts of water in another wooden pail. When both are dissolved, mix with the rest of the water. Warm water in the pails will hasten the process. For the Elm-Leaf Beetle, use 25 instead of 150 gallons of water.

21 WHALE OIL SOAP.

2 pounds potash whale oil soap.
1 gallon hot water.

For winter use only.

22 KEROSENE EMULSION.

½ pound hard soap, shaved fine.
1 gallon water.
2 gallons kerosene.

Dissolve the soap in the water, which should be boiling; remove from the fire and pour it into the kerosene while hot. Churn this with a spray pump till it changes to a creamy, then to a soft butter-like mass. Keep this as a stock, using one part in nine of water for soft-bodied insects, such as plant lice, or stronger in certain cases.

23 MECHANICAL EMULSION.

A substitute for the last. Made entirely by the pump, which draws water and kerosene from separate tanks and mixes them in the desired proportion by a mechanical device. Several pumps for the purpose are now on the market.

24 RESIN-LIME MIXTURE.

5 pounds pulverized resin.
1 pound concentrated lye.
1 pint fish or other animal oil.
5 gallons water.

Place the oil, resin and 1 gallon of hot water in an iron kettle and heat till the resin softens, then add the lye and stir thoroughly; now add 4 gallons of hot water and boil till a little will mix with cold water and give a clear, amber-colored liquid; add water to make up 5 gallons. Keep this as a stock solution. For use, take 1 gallon of stock solution, 16 gallons water, 3 gallons milk of lime, ¼ pound Paris green.

The object of this preparation is to obtain an adhesive material, which will cause the poison to adhere to smooth leaves. It has been highly recommended by the New York State (Geneva) Experiment Station.

25 LIME, SALT AND SULPHUR.

(*Oregon Formula.*)

50 pounds unslaked lime.
50 pounds flowers of sulphur.
50 pounds common salt.

Slake the lime in enough water to do it thoroughly, add the sulphur and boil for an hour at least, adding water if necessary. Then add the salt and boil 15 minutes more. Add water to make 150 gallons, and spray hot through a coarse nozzle.

26 LIME, SALT AND SULPHUR.

Marlatt's Formula (*from Smith.*)

30 pounds unslaked lime.
30 pounds sulphur.
15 pounds salt.
60 gallons water.

Boil with steam for 4 hours, and apply hot.

27 CARBOLIC ACID EMULSION.

1 pound hard soap, shaved fine.
1 gallon water.
1 pint crude carbolic acid.

Dissolve the soap in the water, boiling; add the carbolic acid and churn as for kerosene emulsion. Use 1 part of this with 30 parts of water.

28 HELLEBORE.

1 ounce hellebore.
½ gallon water.

Steep the hellebore in a pint of water and gradually add the rest of the water. Hellebore may also be dusted over the plants, either pure or mixed with flour or plaster.

29 INSECT POWDER, PYRETHRUM.

Mix with half its bulk of flour and keep in a tight can for 24 hours; then dust over the plants. Or,

100 grains insect powder.
2 gallons water.

Mix together, and spray.

COMBINED FUNGICIDES AND INSECTICIDES.

30 BORDEAUX MIXTURE AND PARIS GREEN.

4 ounces Paris Green.
50 gallons Bordeaux Mixture.

31 BORDEAUX MIXTURE AND ARSENATE OF LEAD.

1 gallon arsenate of lead (made by formula No. 20).
50 gallons Bordeaux Mixture.

32 BORDEAUX MIXTURE AND ARSENITE OF LIME.

1½ quarts arsenite of lime (made by formula No. 19)
50 gallons Bordeaux Mixture.

33 SOAP MIXTURE.

(Used for White Fly.)

1 bar soap (10-cent size).
3 gallons water.

Apply warm, as it thickens on cooling.

Recommended for rose mildew, red spider, plant lice, etc.

Any common laundry soap, particularly the yellow resin soaps, dissolved 1 pound of soap to 15 or 20 gallons of water, is an efficient application for white fly, red spider, plant lice, etc. The addition of ¼ pound of Paris green to each 50 gallons of soap solution adds to its efficiency. There is probably no better formula for white fly than the above.

Equal parts of soap solution and sulphur wash—made by dissolving 20 pounds of sulphur with 10 pounds of caustic soda—is a most excellent general application.

Sulphur wash is prepared as follows: First mix 20 pounds of flowers of sulphur into a paste with cold water, then add 10 pounds of pulverized caustic soda (98%). The dissolving lye will boil and liquefy the sulphur. Water must be added from time to time to prevent burning, until a concentrated solution of 20 gallons is obtained. Two gallons of this is sufficient for 50 gallons of spray, giving a strength of 2 pounds of sulphur and 1 of lye to 50 gallons of water. An even stronger application can be made without danger to the foliage. This mixture can also be used in combination with other insecticides.

The chemical combination of sulphur and lime, known as bisulphide of lime, is, perhaps, a better liquid sulphur solution than the last as a remedy for mites. It may be very cheaply prepared by boiling together, for an hour or more, in a small quantity of water, equal parts of flowers of sulphur and stone lime. A convenient quantity is prepared by taking 5 pounds of sulphur and 5 pounds of lime and boiling in 3 or 4 gallons of water, until the ingredients combine, forming a brownish liquid. This may be diluted to make 100 gallons of spray.

Almost any of the insecticides with which the sulphur application may be made will kill the leaf or rust mites, but the advantage of the sulphur arises from the fact that it forms an adhering coating on the leaves, which kills the young mites coming from the eggs, which are very resistant to the action of the insecticides and result in the plants being reinfested unless protected by the sulphur deposit.

SPRAYING CALENDAR.

Plant.	1st Application.	2d Application.	3d Application.	4th Application.	5th Application.
Asparagus ...... (Rust.)	Use No. 4 on all young beds at intervals of 2 to 4 weeks from May to September, according to the weather.	After cutting, use No. 1-b or No. 4.			
Bean .... (Anthracnose, leaf blight.)	When third leaf expands, No. 1-b.	10 days later, No. 1-b.	14 days later, No. 1-b.	14 days later, No. 1-b. Spraying with No. 1-b, after the pods are one-half grown, will injure them for market.	
Cabbage .. .. .. (Worms, club root.)	No. 29, dry for worms. Lime, 35 bu. per acre for club root.	7-10 days later, repeat No. 29 dry.	7-10 days later, repeat second.	Repeat in 10-14 days, if necessary, second.	
Carnation ...... (Rust and other fungous diseases.)	No. 1-b, in field at intervals of from 1 to 2 weeks according to the weather.				

SPRAYING CALENDAR — Continued.

Plant.	1st Application.	2d Application.	3d Application.	4th Application.	5th Application.
Celery .... (Rust and blight.)	Spray in seedbed with No. 1-b, every two weeks.	Dip plants in No. 1-b before planting.	Use No. 1-b until banking begins every two weeks.		Freedom from disease depends largely upon good cultivation and an abundance of plant food in the soil.
Grape .... (Fungous diseases, rose bug, etc., leaf hopper.)	In spring, when buds swell, Nos. 1 and 14	Just before the flowers unfold, No. 30.	When fruit has set, No. 30; for leaf hopper, No. 22, 15 per cent.	2 to 4 weeks later, No. 11.	No. 11, as fruit is coloring.
Nursery stock... (Fungous diseases.)	When the first leaves appear, No. 1-b and No. 30 or 31.	10-14 days, repeat; for scale, treat as for apple.	10-14 days, repeat.	10-14 days repeat; for scale, treat as for apple.	5-7 days later, repeat.
Peach, Apricot, Nectarine *† (Rot, mildew, scab, leaf curl, curculio.)	As the buds are swelling, for plum curculio Nos. 3 and 20.	When fruit has set, Nos. 3 and 31 for curculio.	When fruit is one-half grown, No. 3, a or b.	5-7 days later. No. 12‡; for scale. treat as for apple.	10-14 days later, No. 11.

SPRAYING CALENDAR — Continued.

Plant.	1st Application.	2d Application.	3d Application.	4th Application.	5th Application.
Pear .... (Leaf blight, scab, psylla, coddling moth, blister mite, slug.)	As the buds are swelling, No. 1-b.	Just before the blossoms open, No. 30; when the leaves open for psylla, No. 23.	After blossoms have fallen, if necessary No. 23.	8-12 days later, repeat third; for scale, treat as for apple.	10-20 days later, No. 11.
Plum *† .... (Curculio, black knot, leaf blight, brown rot, San Jose scale.)	When buds are swelling, No. 1-b; before the buds swell, No. 23 or 21 for scale.	When blossoms have fallen, No.31	10-14 days later, No. 31.	10-20 days later, No. 31; for scale, treat as for apple.	10-20 days later, as fruit is ripening.
Quince .... (Leaf and fruit spot.)	When blossom buds appear, Nos. 1 and 30.	When fruit has set, No. 30.	10-20 days later, No. 1-b.	10-20 days later, No. 1-b.	
Raspberry, Blackberry, Dewberry. } .. (Rust, anthracnose, leaf blight.)	Before the buds break, No. 1-b.	Just before the blossoms open, No. 30.	(Orange or red rust is treated best by destroying the plants attacked in its early stages.)	Spray after the fruit is gathered, with No. 1.	10-20 days later repeat.
Rose .... (Rose mildew, red spider.)	No. 33, whenever these pests appear.				

SPRAYING CALENDAR — Continued.

Plant.	1st Application.	2d Application.	3d Application.	4th Application.	5th Application.
Strawberry ...... (Rust, black paria, etc.)	As soon as the growth begins, with No. 1-b. Dip plants in No. 1 before setting.	When the first blossoms open, spray both young and old plaitation, No. 30.	Spray the new plantation, No. 1-b.	Repeat third, if weather is moist.	
Tomato .... (Rot, blight, flea beetle.)	Soon after the planting, use No. 1-b.	Repeat as soon as fruit is formed; fruit can be wiped, if disfigured, by No. 1-b.	Repeat the first when necessary.	Try weak solution of copper sulphate as fruit begins to ripen.	
Potato .... (Flea beetle, Colorado beetle, blight and rot, scab.)	Spray with No. 30, when about one-half grown; for scab, Nos. 15 and 16.	Repeat before insects become too numerous.	Repeat for blight, rot and insects as potatoes approach maturity.		
Violet .... (Spot, red spider.)	Use No. 33 on first appearance of spot or insects.				

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* Paris Green cannot be used on foliage of cherry, peach, Japanese plum, apricot and nectarine without injury

† Black knots on plums or cherries should be cut or burned as soon as discovered.

‡ If a pail full of lime wash, well strained, be added to each barrel full of copper solution—4 ounces to 50 gallons—delicate foliage like that of the peach, etc., will not be injured.

CORN.

By P. H. Rolfs.

Director of the Experiment Station and Superintendent of Farmers' Institutes.

The quantity of corn produced in Florida is much greater than is realized even by those who are actively engaged in farming. According to the Bureau of Statistics of the U. S. Department of Agriculture, the Florida crop for 1909 is 8,379,000 bushels; exceeding the crop of 1908 by nearly two million bushels. The average yield for 1909 is 12.6 bushels per acre, while for 1908 it was 10.5 bushels. While this increase is creditable, the average yield is still too low, as it leaves us at the foot of the column of State yields of corn per acre. For the year 1907-08 the Commissioner of Agriculture reported that Florida produced (See Statistic for Yield, 1909), 4,351,000 bushels of corn, valued at $3,409,000; thus exceeding in value any other single farm crop. The combined crops of Upland and Sea Island cotton exceeded the value of the corn produced in 1907 by only $244,000. Ordinarily, much more is thought of the cotton crop in Florida than of the corn crop. Even the orange crop for the year 1907-08 exceeded the corn crop by only $812,000—less than 25 per cent.

While the total amount of corn produced in the State of Florida is very large, the average yield per acre is only 12.6 bushels. This yield is altogether too small for profit. Half a crop of corn leaves little or no profit for the farmer. It can safely be stated that a crop of corn that falls below 15 bushels per acre does not return to the farmer more than the cost of making it. In contradistinction to this very low average yield, we have the very large yields that have been obtained by certain progressive farmers in recent years in Florida. Eighty bushels per acre have been produced repeatedly. Yields approximating, or even surpassing, the hundred bushel mark, have been produced. These, however, are exceptional cases. Nor have these extremely large yields been produced at exorbitant cost. In one case where the data were kept, it was found that the corn cost forty-two and a fraction cents per bushel to make. At 42 cents per bushel, the average crop of corn for Florida should not cost over $5.29 per acre; while as a matter of fact it costs us from $8 to $15 per acre to produce a crop.

During the last few years considerable interest and rivalry have occurred in corn production in a number of counties in the State; notably in Walton, Marion and Hernando. The corn exhibited in 1909 at the Tri-county Fair at Pensacola was judged by an Illinois corn expert, and the exhibit that won first prize was marked only 60 per cent of the maximum by the score-card method. In the same year the highest award given to any corn exhibited at the Marion County Fair was only 69 per cent. This shows to us that the best corn produced is still open to revolutionary improvement.

THE LAND.

Choice of Land.—In choosing land for corn we have considerable latitude as to quality. Ordinarily, land with a clay subsoil will be found to be better suited for corn production than sandy land without a clay subsoil. So long as cotton was king with our farmers, any sort of land was thought to be all right for corn. "It didn't amount to much, anyhow;" and consequently any land with any kind of preparation was sufficient. All that the farmer wanted was acres of land in corn. Since the advent of better work animals, better cattle, better hogs, and the beginning of poultry raising, we have learned, however, that corn is more profitable than aimost any other farm crop that we can raise, provided we give it the proper attention. The land chosen should have an abundance of humus, and be sufficiently well drained naturally to prevent it from becoming waterlogged during the heavy rains which are likely to occur just at the time the ears are filling out.

Preparation.—Before one can raise corn profitably, and in fact before one can really consider himself a corn farmer, all the stumps must be removed, from the land. It requires only a small number of stumps per acre to reduce the area by ten per cent. Farming stumps never did pay and never will. It is much easier to cultivate 6 or 8 hills of corn than to plow around a single stump, and with our long winter season, together with an abundance of idle labor during this time, there is really no good excuse for having stumps in our fields at all.

Deep Plowing.—To make a maximum crop of corn it is necessary to make a proper beginning. The only proper beginning is to plow the land deeply and early in the year. December is none too early. If one wishes to get the maximum yield it is absolutely necessary to have all the vegetable matter turned under before the middle of January. The sections of Florida which are noted for their deep plowing are, at the same time, the banner crop-producing sections. Near Muscogee a crop of 109 bushels of corn was produced on land that was plowed ten inches deep and subsoiled eight inches below the plow furrow, thus giving a soil depth of eighteen inches. In Gadsden County a number of farmers produced 90 bushels of corn per acre. All of these farmers are advocates of deep plowing, and practice it regularly.

If one puts off plowing for corn until planting time, and then should break up the land deeply, his chances are about nine out of ten to make a failure of it. If he also waits until late planting time to plow at all, he has about one chance out of twenty of making a good crop. It is, therefore, of the utmost importance that we plow deeply early in the year. Otherwise the raw soil which is turned on the top will not have time to become properly oxidized or aerated so as to make fit plant food.

FERTILIZING.

Corn may be considered a quick-growing crop, that is it requires the use of the land for only from 120 to 150 days. Yet it is not what we would call one of the shortest crops, such as lettuce or cucumbers. On account of the length of the season through which corn grows, we can use organic materials to a considerable extent for supplying ammonia. The potash and phosphoric acid may be derived from the ordinary sources. There seems to be little advantage in using one form of fertilizer rather than another, for what corn wants is a large amount constantly on hand.

Land well filled with humus and deeply cultivated, will produce a good crop with a much larger amount of fertilizer than is allowable on poor land, not deeply prepared, and lacking humus. On the ordinary poor land (such as is used for the most part for producing corn, and prepared about three inches deep) we cannot use successfully more than 400 to 600 pounds of ordinary fertilizer, in fact, during some years 600 pounds will be found excessive. Whereas, on well prepared soil, containing an abundance of humus, three times this amount will not prove deleterious to the corn, even during the driest weather that we are likely to have.

Fertilizer Formula—

Ammonia	3 per cent.
Phosphoric acid	5 per cent.
Potash	4 per cent.

Ingredients Needed to Make a Ton of the Formula.—Te secure the necessary plant food represented in a ton of the above formula, we should use:

Dried blood	350 pounds, or
Cottonseed meal, 7½ per cent	800 pounds.
Acide phosphate, 16 per cent	660 pounds.
Muriate of potash	160 pounds, or
Kainit	660 pounds.

It is a waste of good money to use cottonseed meal as a fertilizer for farm crops. It should be first fed to stock, and the manure used for fertilizer. In this way the farmer will get a double value from the material purchased. If the field in which corn is to be planted was covered with a good crop of velvet beans, cowpeas or beggarweed the year before, the ammonia in the above formula may be omitted, thus saving about $10 per ton on fertilizer. Just before the corn is silking, it is frequently profitable to apply broadcast 200 to 300 pounds per acre of nitrate of soda.

The chemicals necessary to make up the foregoing formula may be purchased from fertilizer houses in Gainesville, Jacksonville, Tampa, and sometimes in Pensacola. it is more economical to have the fertilizers mixed at the fertilizer houses, especially if we purchase in less than five-ton lots.

Application of Fertilizer.—Ten days or two weeks before the corn is to be planted, one-half of the above material may be taken and applied broadcast to the field. Immediately after the fertilizer has been applied, we should run over the field with a weeder. This will cause a fair distribution of the fertilizer on the field and a rather even mixing with the surface soil.

A second application of the fertilizer may be made about the time the corn is knee high. This assures us that the corn will have the fertilizer at the time it needs it. In case of unseasonable rains, a large amount of the fertilizer would be lost if it were all put on in one application. Less trouble is experienced from this source in the clay soils than in the loose, sandy ones; and less loss occurs in lands well filled with humus than in those that are rather sterile.

PLANTING.

The only correct way to plant corn, when one is really a corn farmer, is to use the planter. The one-horse planter, somewhat similar to the cotton planter, will be found a useful implement. This drops the corn and covers it, all in one operation. One man and a mule can easily plant eight or ten acres a day, and do the work better than can be done by any number of hand-dropping and hoe-covering laborers. Where one has a small area of one or a few acres, it may be advisable to drop the corn by hand; but if one has as much as twenty acres to plant, it will certainly not be profitable to do the work by hand. In this case, the corn planter will pay for its cost in the first year's work.

Frequently these one-row corn planters have attached to them a fertilizer distributer. It is a mistake, however, to apply the fertilizer at the same time that the corn is being planted. For the most part our fertilizers of the present day are so concentrated that they are likely to injure the young sprouts as the corn is coming up. The fertilizer should have been applied two weeks before planting.

CULTIVATION.

When the land on which the corn is planted has been prepared early and plowed deeply there is little need of deep cultivation. As a matter of fact, with the seed-bed properly prepared, one is fortified against the driest weather that has been experienced in the State, and all that is needed is to destroy the few weeds that come up, and to keep a dust mulch on the surface to prevent evaporation. During the year 1908, a number of farmers in the State made a demonstration for the U. S. Department of Agriculture, showing that a good crop of corn could be matured with no other cultivation than such as may be given with the garden rake.

As soon as the corn has been planted, we prefer to use a one or two-horse weeder to go all over the ground. This implement works over the surface of the ground, giving us a perfect blanket of dust mulch; and thus conserves every bit of moisture there is in the soil. The weeder may be used for cultivating the corn until it has reached the height of ten to twelve inches.

Implements.—The best implement for cultivating corn in Florida is the *riding cultivator.* Such an implement will pay for its cost the first year one owns it. By using two medium-sized mules, ten or twelve acres of corn can readily be cultivated in a day. This implement has the advantage of working on both sides of the row at once, thus enabling the laborer to kill any weeds that may have sprung up without injuring the corn in the least. We prefer to use a riding cultivator with six or eight small shovels, and one that does not go deeper than about three inches into the soil.

When the corn is beginning to make joints, or when it becomes about shoulder high, it should receive its last cultivation, not because it would be unprofitable to continue plowing, but because our implements are likely to break down the stalks. Shallow-working implements might be kept going with advantage until the summer rains begin. Just after the last plowing it will be found advantageous, in almost all cases, to plant a row of cowpeas between the rows of corn. During the summer an abundance of rain is pretty sure to occur to give plenty of moisture for maturing a crop of cowpeas. Then after the crop of corn has been harvested, a crop of cowpea hay may be obtained, leaving the land much more fertile than would have been the case if the crop of cowpeas had not been planted.

Velvet Beans.—The most profitable crop that we can plant in a corn field for the second crop after corn is a crop of velvet beans. These are planted in several different ways. Some farmers prefer to plant the velvet beans after the corn has come up, directly in the row. The velvet bean is a tropical plant and so makes a rather slow growth until warm summer weather comes on. It interferes very little with the corn during the time the latter makes its root growth, and after the corn has matured, the velvet bean makes a vigorous growth and produces a heavy crop, using the corn stalks to climb upon.

Some farmers prefer, however, to plant the velvet bean later in the year and put it between the rows of corn. They plant their corn rows farther apart so as to make it possible to cultivate between the rows of velvet beans and the rows of corn. This usually reduces the amount of corn produced per acre.

Harvesting.

To get the maximum profit out of a crop of corn it is necessary to cut the stalks and keep them for winter forage. The time for shocking corn is just after the ears have fully matured and before the leaves have become dry. The size of shock varies considerably with different farmers, running all the way from 150 to 500 stalks to the shock. The latter number is rather unusual. The great objection to preserving corn in this way is that the fodder molds in the shock. We have, however, a considerable number of farmers in the State who have overcome this difficulty. They do this by tying the top of their shock so tightly that the rain cannot enter the middle of the shock. To tie the heads of the shocks firmly they have a rather unique device. A stick about five feet long sharpened at one end has a cross-bar nailed to it about eighteen inches long and ten inches from the large end. This has attached to it a half-inch rope long enough to go around the shock. This rope is thrown around the top of the shock and attached to a device in such a way that by twisting the stick the rope is wound around it and the top of the shock squeezed together very firmly. After this pressure has been brought on the top of the shock it is held in place by tying with ordinary binder twine. The device for tightening the top of the shock is then removed and used on the next one. As a further precaution against rain getting into the top of the shock, fertilizer or feed bags that have been ripped open on one side are stretched over the shock in such a way as to form a cover.

Few corn farmers realize, however, how much valuable material is being wasted on the farm annually by allowing the corn stover to go to waste in the field. Its fertilizing value is not to be considered as compared with its feeding value.

Shucking.—Ordinarily the ears are removed from the field and stored with the shucks on them, the general belief being that the shucks prevent weevil attack. This, however, is more imaginary than real. We like to make ourselves believe that the easiest way of doing our work, even though it is a sort of slipshod way, is the best, and we invent all sorts of arguments to convince ourselves. Where the corn is shucked clean and the ears placed in the crib without the shucks, it will be found that it is not any more attacked by weevil and vermin than where the ears have been left in the shuck. If we prepare our store-rooms as we ought for treating our corn with carbon bisulphide, there certainly is no good reason for putting the corn in the crib unshucked.

Where velvet beans have been planted among the corn, it becomes impracticable to harvest it until late in December or about the beginning of January. At first this would appear to be a very serious drawback. Scores of farmers, however, have learned from practical experience that the *corn left in the field under velvet beans is rarely ever attacked by weevils,* and such a small amount of corn is lost from molding or rotting that this is practically a negligible quantity. The weevil and moth seem to be unable to find the corn in the dense velvet bean field, and during December and January these little pests are hibernating and consequently the corn gets into the crib without being infested.

STORING.

In the matter of storing corn we still have many improvements to make. Ordinarily we think that any place that may be called a bin or crib is all right for corn. Such a bin is frequently without a floor, and often the roof is leaky. Both of these conditions are such as no reasonable man should permit for a single day. There is no sense in working hard all spring and summer to make a crop, and then trying to store it on a dirt floor and under a leaky roof. The annual loss to the State from weevils and moths in feed corn is probably not less than $300,000. At least 90 per cent. of this loss is preventable at a small cost. The right kind of a bin in which to store corn is one that has a tight roof, a tight floor, tight sides and a tight door. The corn when it is thoroughly dry can be placed in this bin, and if attacked by vermin or insects the bin may be fumigated by the use of carbon bisulphide. If the sides, top, and bottom of the bin are reasonably tight, that is, if they have been made from ordinary No. 2 flooring, we can fumigate about 500 bushels of corn with six pounds of carbon bisulphide. This usually retails at thirty cents a pound, but in large quantities it can be had at a much lower rate. One fumigation a year is usually sufficient. This, of course, would depend very much on the tightness of the bin and on the length of time the corn was in the bin. Where the corn is stored in the shuck we waste much of the chemical, from the fact that the shucks take up so large a space, and the work cannot be done so thoroughly because the shuck frequently encloses the ear very tightly, thus in a measure preventing the fumes from entering the shucks and getting at the weevils.

SEED SELECTING.

Too frequently our corn farmers forget all about that they are going to plant corn until planting time arrives. Then a hasty visit is made to the corn crib, and the best ears that have not been fed out are quickly selected and used for seed. Or a man may do worse than this. He may feed out all his corn and then depend on the merchants in the neighboring town to provide him with seed-corn, which may or may not be adapted to his particular section. It may, perhaps, germinate well, but it is more likely that a large percentage of it will be dead before it is planted. The time to select seed-corn, if one has not already done so in the field, is when one has a full crib. Ordinarily a crib of 500 bushels would not yield more than ten bushels of good seed-corn. Of course, if we are contented with raising 12.6 bushels of corn to the acre, which was the average for 1909, there is no need of worrying about selecting seed-corn. Almost any sort of corn, a two-thirds stand, and any careless way of taking care of it, will probably give us that much of a crop. But there is no operation in the whole line of corn farming that pays better for the time expended and money invested than the careful selection and careful keeping of seed-corn. In selecting seed-corn from the crib we should always be careful to select the finest ears, taking only those that have a symmetrical outline, whose tips are well filled, whose butts are also well filled, and whose butts have their grains regularly set on them. An ear of corn that is much larger in diameter at the butt than one-third of the length is not a good ear to select for seed.

Field Selection.—The proper way to select seed-corn however, is to do this work in the field before the crop has been gathered, the ideal time being when the ears have hardened, or about the time when the corn ought to be cut for shocking. At this time one can not only select the best ears, but can also select ears from the best stalks. In selecting corn at this time one will at once recognize that there are many stalks in the field which have matured only one ear. These ears are usually the largest; but by weighing one of these large ears and then comparing the corn with that from a stalk that has produced two, three or four ears, one will find at once that the stalks which are prolific, that is, those which have produced more than one ear, have given a larger yield of corn. One will also find pretty soon that those stalks that set an extra large number of ears will mature only a portion of them. So that as a rule one finds that the stalks which bear two and three ears produce a larger amount of corn than those which bear only one ear or than those which bear four or five ears each.

TESTING SEED CORN.

After the seed-corn has been selected and has passed all of the inspections which show that it is perfect to the eye, a further inspection is necessary for germinating quality. This can be done only by using a seed-tester. Such and implement can be readily made by anyone on the farm. The simplest form consists of a large soup plate filled with wet sand covered with ordinary muslin. Fitted over this should be a smaller soup plate. This is to prevent evaporation of moisture. An ordinary cigar box, about 5 by 7 inches, with two inches of sand in it, will also make an excellent seed-tester. When we are ready for testing the seed-corn, the sand in the cigar box should be thoroughly wetted, enough water being used to cover the sand. The box is then tipped on one edge to drain off the surplus water. Hold it in this position four or five minutes, then wet the muslin rag, and we are ready to set in place the kernels to be tested. For this purpose we must number every ear. This can be easily done by taking numbered strips of paper and tying them with ordinary twine to the ears. After the ears have all been numbered, we may begin with No. 1, and remove one kernel about two inches from the tip, and another kernel about two inches from the butt; then by sticking them in pairs into the sand, we will have this ear ready for testing. Follow the same method with the second ear, and so on, until the kernels from ten ears are placed in the first row. The number of ears that can be tested will depend largely on the size of the box. An ordinary 100-cigar box will hold at least five rows, with ten pairs in each row. The rows will then be numbered so as to enable us to find the ears whose kernels failed to germinate. By counting down the rows, and noting the kernels that have failed to germinate, we will have no difficulty in locating the bad ears.

After the seed-tester has received all the kernels that can be planted conveniently, place over the kernels the wetted muslin rag, then close the cover and place on it a weight to keep mice out. This seed-tester should then be placed in the kitchen or any other warm situation. It should be examined every day to see that the sand and cloth are moist. In the course of a week or ten days about all of the corn that is sound will have germinated.

BUYING SEED CORN.

Over nine-tenths of the corn crop in Florida is planted from purchased seed; either of a local variety, or from some out-of-State seed house. In buying seed, one should always give preference to the local varieties.

Buy Seed Corn in the Ear.—If it is necessary for a farmer to buy seed-corn, he should always demand that this seed -corn be delivered to him in the ear. This practice is, unfortunately, not at all general. Less than one bushel out of a hundred is bought in this way, and yet this is one of the most important considerations in buying seed-corn. When one buys kernels that are already shelled for seed, it is impossible to reject the dead grains; and testing shelled seed-corn gives us only an imperfect idea as to its vitality. Such a practice leads to considerable annoyance after planting has been done. In addition to this, the shelled seed-corn does not guarantee us that the ears used were even approximately perfect and true to type. Shelled seed-corn usually sells at about $2.00 a bushel, when the ordinary feed corn is selling for a dollar a bushel. As a bushel of seed-corn will plant from six to ten acres of corn, we can readily see that $5.00 a bushel for perfect seed-corn would be a small price to pay compared with other seed-corn which would have in it ten to twenty per cent dead seed. Our home-grown seed-corn frequently has as high as twenty-five per cent of dead corn in it. We would make at least 500 per cent on our investment if we bought perfect seed-corn at $5.00 per bushel. So high a price is almost never charged; consequently we can see the extravagance of paying $2.00 a bushel for poor seed, when we can nearly always get seed-corn that is nearly perfect, in the ear, for about $3.00 a bushel.

KEEPING SEED CORN.

After the seed has been tested and all of the ears rejected from which the seed failed to germinate, the corn may be placed in a tight barrel, a large box, or a ceiled bin. A large, well-made drygoods box is a convenient receptacle. This should be papered inside to prevent the fumes of carbon bisulphide from leaking out too rapidly. For every cubic foot of space in the box allow one teaspoonful of carbon bisulphide, to kill weevils. This carbon bisulphide should be placed on top of the corn in a shallow saucer. After the saucer is in place, the box may be carefully nailed up; taking care not to upset the saucer containing the carbon bilusphide, as the liquid coming in contact with the seed might destroy its vitality. As a further precautionary measure, to repel insects that might gnaw through the paper and infest the corn, it may be well to place a considerable number of naphthaline or moth balls in the box, using four or five for every cubic foot. If these are scattered somewhat regularly through the corn, they will prove very effective in keeping out insect pests.

CONCLUSION.

By proper preparation of the land, that is, removing the stumps, deep plowing early in the year, turning under the vegetable matter and allowing this to decay to form humus, and shallow cultivation, we will be able to increase our corn production at least fifty per cent. By proper and careful seed selection and testing every ear before it is planted, we will be able to increase our corn production immediately at least fifty per cent over what it is at present. We have corn farmers in Florida who have carried out both these recommendations thoroughly and who are now producing on the average over two hundred per cent more corn per acre than the average for the whole State. They are the farmers who can make corn much more cheaply than they can buy it. But few of these farmers have any corn for sale. They, however, keep plenty of live stock, and have the finished product from the farm for sale. They are satisfied and well-to-do farmers of Florida.

COTTON.

By P. H. Rolfs.

Director Experiment Station and Superintendent Farmers' Institutes.

The cotton crop of Florida holds one of the most important places in the agriculture of the State. It has been the money crop for the farmer from the time of the first settlement. The quantity produced has greatly increased, sometimes slowly and at other times somewhat rapidly. Our earliest statistics go back about as far as 1830. In 1839 the cotton crop of the State, measured in bales, was exactly one-half of what was produced in 1909, seventy years later. The banner year for cotton production, in number of bales, was in 1904, when 89,000 bales of 400 pounds each were produced, valued at $5,444,000. This cotton was grown on an area of 267,000 acres.

The cotton crop of 1909 was 62,900 bales, valued at $5,760,000, reaching the highest figure in point of value ever produced. This cotton was grown on 266,000 acres. In 1907 the average production of cotton per acre fell lower than it has fallen in any other year within the last decade. In 1904 the highest average production per acre was reached. It will be noticed that the average production per acre fell off in 1909, when it was only seventy per cent of the amount produced in 1904. The reasons for this falling off were various. In a large measure the climatic conditions of 1909 were responsible for the low average production per acre. Anthracnose, a disease which attacks both the plant and the bolls, caused a very large loss. Careless methods of preparation of the soil and of cultivation also had their influence on the reduction of the crop.

PREPARATION OF THE SOIL.

Deep Plowing.—In preparing the soil for cotton it should be kept in mind constantly that the plowing or breaking in the winter or early spring is the most important operation of the entire year. Some of the other defects may be corrected, but if this one operation is neglected we are nearly certain to reap a small crop, no matter what our later work may be. The land should be broken early in the year. December or the first two weeks in January are the most favorable periods of the year. It should be broken deeply if a considerable amount of vegetable matter occurs in the field. Ten to twelve inches will not be too deep. If, on the other hand, the soil has been cultivated for many years and contains only a small amount of vegetable matter, it may be advisable to break the land no more than two or three inches deeper than it was broken up the year before.

The deep breaking early in the year provides ample space for storing up moisture. The particles of soil are separated by this tillage, allowing the air and the moisture to circulate freely through that portion of the soil which is to become a seed-bed later in the year. If the soil is broken early in the year it catches the winter rainfall and stores it up for spring and early summer use. Having broken up the soil thoroughly in the spring, and pulverized it well, the loose soil forms a blanket which prevents the escape of moisture from the soil. The capillary moisture rises upward, but the surface blanket stops its rise and so prevents it from evaporating into the air.

Aeration of Soil.—Another important point that is usually entirely overlooked is that by thorough plowing the lower portion of the soil is brought near the surface and the surface soil is turned down deeper. This brings a large portion of the soil near the surface where it can be aerated, and where the oxygen of the air can get to the soil particles and put them in condition to furnish the plant food for the coming crop. This is forcibly illustrated by many instances. We have frequently noticed that when a well is dug on a farm, the earth thrown out from the bottom of the well is usually a dead mass, on which for the first six months hardly any weeds will grow. We may think that this is due to the want of weed seeds in it. This, however, is not the case, for plenty of weed seeds are blown or otherwise distributed through it. It is simply too low in available plant food to allow any of the weed seedlings to grow. After this earthy matter has been aerated for a few months, however, we find the tallest and rankest weeds springing up in this soil which was formerly deep down in the earth. The same conditions occur when we break up our land. If we break it up deeply and then plant our seed immediately we will certainly be disappointed, unless the land has also been broken up deeply and the surface soil aerated in previous years. By breaking up the soil deeply in the late fall or early winter, enough time elapses before the cotton has to be planted to let this soil become thoroughly aerated, and then we have a fresh, vigorous soil. In a large measure this soil is like newly broken land.

Soil that has been deeply broken, especially if it is twelve to fourteen, or eighteen inches deep, makes an excellent seed-bed, in which rapid growth of plants is greatly promoted. Cotton is no exception to this rule. Anyone doubting this assertion can readily prove it for himself if he will simply take the trouble to dig out a dozen of the best cotton plants from deeply prepared soil and then dig out a dozen cotton plants from soil that has been prepared in the ordinary haphazard way. The roots of the cotton plants that have been dug from the deep soil will be found to be much more abundant, much more vigorous, and deeper in the soil than those from the land that has been prepared only three or four inches deep.

Deep Soil and Fertilizer.—Even if the important reasons for deep plowing just given were not considered sufficient, there is still another reason that makes deep plowing a necessity. Land deeply prepared has a much greater capacity for holding fertilizer than land that has been only indifferently prepared. Usually it is thought that the quantity of cotton produced on the acre will vary directly in proportion to the amount of fertilizer that one can afford to apply. Definite tests have been made by the Experiment Station which show that this is altogether a mistake. An acre of land prepared in the ordinary way and of only ordinary fertility cannot make use of more than about six hundred pounds of fertilizer of ordinary concentration, such as is given in the formula below. In our experiments we found that the amount of cotton produced from different applications of 200, 400, and 600 pounds, increased rapidly and gave handsome additional returns for the larger amounts. In fact, in many cases it will be found that an application of 400 pounds of fertilizer to the acre will double the amount of cotton produced by an application of 200 pounds of fertilizer, thus making as much cotton on one acre as otherwise would have been made on two. Our experiments showed that 600 pounds of fertilizer was the maximum amount that could be applied profitably on ordinary land. When 800 pounds was applied there was actually a decrease in the total amount of seed cotton produced as compared with 600 pounds of fertilizer. The land, however, was prepared in an ordinary indifferent way.

Turning Under Vegetable Matter.—For years past and for generations, our forefathers have made it a practice to wait until about time to plant cotton, and then to turn into the old cotton field and burn off the vegetable matter. A man, who in this day and age will burn off the vegetable matter in the same manner as was done by our forefathers is nothing but an agricultural criminal. He is taking comfort and pleasure away from his family, requiring them to live in wretched surroundings and leaving himself a miserable living. Our criminal laws punish any one who sets fire to any building; but the farmer, who intentionally and by design sets fire to and burns up his vegetable matter, harms himself and his family more than he would if he were to set fire to his stables; for it not only impoverishes the soil for that year, but continues to have its detrimental effect for years to come.

Must Plow Early.—Plowing under vegetable matter must be done early in the year. It cannot be put off until cotton-planting time. The earlier in the year this can be done the better. It should not, however, be delayed longer than the middle of January.

Humus.—Plowing under the vegetable matter gives the important and necessary element to the soil which we ordinarily know as humus. Humus is not vegetable matter, nor is it soil. It is the intermediate stage between vegetable matter and soil. All vegetable matter when it decays goes through much the same chemical process as when the chemist ignites it in the crucible and reduces it to earthy matter, the difference being that the sun and air act more slowly than fire, and nature takes her time to do this work. The burning process, or oxidizing process as the chemist calls it, goes on, however, just as certainly as if it were in the chemist's laboratory. The vegetable matter in the soil, as mere vegetable matter, is of no value to us, nor is the vegetable matter of much concern or value to us after it has reached its ultimate reduction and has returned again to soil. It is on its transition from the vegetable matter towards earthy matter that it is of greatest importance to us from an agricultural standpoint. In this transition period, that is, after the vegetable matter has been thoroughly broken down and no longer has any semblance to the plants from which it was derived, and before it has taken on the condition of earthy matter, this once organic material is what we call humus.

A soil abundantly supplied with humus has a very largely increased water-holding power. The humus in the soil might be likened to myriads of small sponges distributed through the soil. These small sponges will soak up the water and hold it and give it up slowly to the soil. Our chemist in his laboratory has found that soil rich in humus has a capacity for holding at least a hundred per cent more moisture than soil which is devoid of humus. When soil is completely made up of humus and vegetable matter it is usually spoken of as muck soil. Where the vegetable matter is not fully disintegrated and is still of a fibrous character it is usually spoken of as peat. Where the peat or muck is pure the water-holding capacity of the soil is many hundred per cent greater than that of soil entirely devoid of humus.

Any condition of the soil which enables it to hold moisture also increases the fertilizer-holding power. Sandy soil has so little water-holding capacity that we usually speak of it as leachy soil. When fertilizer is placed in such a soil the first rain that comes washes it below into the subsoil. In the presence of humus, however, the fertilizer is retarded or entirely stopped on the way down, and so the plants are enabled, later in their period of growth, to absorb this fertilizer from the humus.

Plowing.—Since the earliest time of cotton planting in Florida it has been the custom to bed up for cotton in the middles of the same land where the crop has been grown the year before. In this way only a fraction of the land is broken up and prepared for the cotton plant. This is a most imperfect and slovenly way to prepare a seed-bed. If the weather and everything else is in the farmer's favor he may make a crop, but he will find that nineteen years out of twenty the weather is against him rather than in his favor. He will therefore find that nineteen times out of twenty he has lessened or ruined his chances of making a good crop before he planted his seed. The only certain way to begin is to begin right, and the right way to begin with cotton planting is to break all the land; what we ordinarily speak of as breaking broadcast. This is a little more tedious than doing it in a slovenly haphazard way and requires more labor and horsepower. If, however, we keep it in mind that farming is a business and not a holiday employment, we can readily get plenty of time to prepare our cotton land. Ordinarily every bit of lint cotton has been taken out of the field by the middle of December. At this time then we can begin breaking up our land for the next year. This will give us ninety days time in which to prepare our cotton land. Of course, to begin at this time of the year would mean that we should have to do a little less fishing, and probably not go hunting quite so frequently. But to make a success of anything it is necessary to give pleasure a second place and attend to our business first.

FERTILIZER.

The cotton plant is not very fastidious about the source from which the fertilizer is obtained. Of course, it has its preferences and dislikes, but as a whole if a moderate amount of fertilizer composed of the right elements be applied to the soil, we may reasonably expect the cotton plant to make use of it. The cotton plant is not a glutton and does not want a big meal at any time; but it wants good wholesome food every day in the month for about five months in the year. A fertilizer composed according to the following formula will be found to be fairly good on the average, for clay land. By comparing this with the formula for sandy lands it will be noticed that the clay land requires less of the element potash than does the sandy land.

FERTILIZER FOR CLAY LANDS.

Ammonia	4 per cent.
Phosphoric Acid	10 per cent.
Potash	4 per cent.

The following ingredients will give approximately the amount of plant food required for an acre of cotton according to the above formula:

Cottonseed meal (7½ per cent ammonia)	320 pounds
Acid phosphate (16 per cent phosphoric acid)	375 pounds
Muriate of potash (50 per cent potash)	48 pounds

These ingredients will furnish the amount of plant food contained in 600 pounds of the foregoing formula.

For sandy land, that is, where the clay does not come nearer than within twelve to eighteen inches of the surface, the following formula will be found to give good results:

FERTILIZER FOR SANDY LANDS.

Ammonia	3 per cent.
Phosphoric acid	7 per cent.
Potash	7 per cent.

Ingredients needed to supply the plant-food in 600 pounds of the preceding formula for sandy lands:

Cottonseed meal (7½ per cent)	240 pounds
Acid phosphate (16 per cent)	263 pounds
Muriate of potash	84 pounds

The amount of fertilizer to be applied either to the sandy land or to the clay land will depend largely upon the condition of the soil. If the soil has been prepared only three or four inches deep, as is the too frequent custom, 600 pounds of the above formula will be the largest amount that we can safely apply under average conditions. If the land has been deeply prepared and contains a large amount of humus, double the amount of fertilizer can be applied with greater profit. It is a great advantage to us to be able to reduce the acreage without reducing the production as a whole. Consequently it is necessary to increase the humus content, increase the depth of our soil, and improve the grade of the fertilizer we are using.

CULTIVATION.

Ask a dozen of your neighbors separately what is the object of plowing, and eleven out of the twelve will tell you that it is to kill weeds. A greater mistake could not well be made. The killing of weeds is merely an incident along the way. We cultivate the land to improve the health of the plant we are growing, to increase its vigor, to enable it to withstand insect attacks and ravages of diseases so that it will produce a large crop of cotton.

The direct effect of cultivating the soil is to aerate it and to conserve moisture. We have, therefore, two points to keep in mind, primarily, in plowing the land and cultivating the crop. First, we must aerate the soil so as to make it a fit place for the habitation of the roots of plants. The roots of these plants need air just as certainly as do human beings. They do not need the same amount, but in the absence of oxygen the roots will be killed and the plants will die. The best way to get this air into the soil is to put it in before the crop has been planted. This is done by deep plowing. Second, we conserve the moisture by frequent and shallow cultivating. This also helps to aerate the soil when the surface has become compacted by heavy rains. Where the soil has been prepared only three or four inches deep, it becomes necessary to cultivate deeply in order that a certain portion of the soil at least may be aerated. In doing this work, however, we mutilate and kill thousands and millions of the roots of the cotton plants. Our best friends are being ruthlessly destroyed and slaughtered for the sake of getting a small amount of air into our soil. No wonder that we have to run down one side of the cotton plant one week and then wait two weeks before it is possible for us to run down the other side. If we were to run down both sides of the cotton plants at one time it would unquestionably ruin thousands of the plants outright.

If destroying four-fifths of the roots at one time would ruin the plant, how can it be anything else but an injury to the plant to destroy one-half of the roots.

The question as to the frequency of cultivation is often asked. The frequency with which we should cultivate depends upon the cost of cultivation. If we have to cultivate with one mule and a hand it will cost us a great deal more per acre than when we cultivate with two mules and a hand. Two mules and a hand can do twice as much work and better work than one mule and a hand. The more frequently we can cultivate, the greater amount of moisture we conserve. Consequently the more frequently we can afford to cultivate, the more likely are we to have a good cotton crop.

SEED SELECTION.

The cotton crop is one of the oldest, if not the oldest, of the agricultural crops that we are now producing. Yet in the past comparatively little attention has been given to systematic selection and breeding. Practically nothing in a systematic way had been done up to twenty years ago. Everything previous to that time had been done in a sort of haphazard lucky-go-easy way. Since then, however, experiments have been carried on with sufficient exactness to allow us to lay down some general rules that may be carried out profitably. First, we know that the seed from a fine, well bolled, productive cotton plant has immeasurably greater probabilities of producing a good crop than seed from a half barren or a small and scrawny stalk. Second, we know that the chance of crossing or cross-breeding between different cotton plants in a field is not nearly so great as in the case of the corn plant. Consequently the work of selection is much more easily accomplished, and the precautions that we have to throw about our work are very much reduced.

Knowing these general principles, it is a simple matter for us to deduce methods for improving our cotton seed. All that is necessary is to select a field of cotton that is being grown on a rather poor or medium poor soil, then go through the field and label or tag the best plants by the easiest method at hand. A very simple way is to tie a bit of muslin to the top of the desirable plants. In looking for desirable plants we should be careful to select those that are very fruitful, those whose bolls open well, whose seeds are well covered with cotton, and whose lint is of the correct length. Five hundred such plants can easily be selected in a day from a five-acre plot.

The seeds of these plants are then saved separately, the first picking being taken off before the whole cotton field is picked, the second picking is taken before the second cotton is picked, and so on. The seed cotton is then saved separately, ginned separately, and stored for next year's planting. The selected seed should be planted by hand to make it go as far as possible. The second year we should save seed only from the best plants in the field of selected cotton.

CANE GRINDING AND SIRUP MAKING.

BY C. K. MCQUARRIE.

Assistant Superintendent Farmers' Institute.

The sugar-cane is one of the oldest farm crops in this State of which we have any record. It dates from the earliest settlement of the country on the East Coast. The Jesuit Fathers imported the seed-cane from the West Indies, where it had been extensively grown as early as the year 1518. It was first brought over by Columbus, on his second voyage in 1493. But the methods of growing the crop and the extraction of the juice for sirup-making have not been much improved upon by the general farmer in all the years since then. This explains the lack of popularity of this crop as a money-maker. With proper cultural methods and the use of improved mills and evaporators, sugar-cane can be made one of the most profitable crops that any of our farmers can grow. It is suitable for all sections of our State, as it thrives under proper treatment on all kinds of soil, from our thin black-jack land to our heavy hammocks. After a number of years of practical experience with this crop, our preference is for high pine lands with a red clay subsoil.

SOIL PREPARATION.

In the natural course of crop rotation, sugar-cane should follow a sweet potato crop which has been liberally fertilized with stable manure. This would put a great amount of humus in the soil, and this is necessary in growing a cane crop. Failing to get this rotation, the next best would be to grow velvet beans as a preceding crop, and have them grazed off by live stock. But whatever rotation we practice, and on whatever kind of soil we grow sugar-cane, we should take care that the soil is put in the best condition possible by deep plowing and thorough pulverization. On old land that has been in cultivation for a number of years, we should use a subsoiler, in addition to deep plowing by either a turning or disc plow. This subsoiler should immediately follow the other plow in the same furrow, using two teams at the same time. Above all we should see that our land is clear of stumps; for one cannot conduct profitable farming on stumpy land, because improved tools cannot be used. If one has to use the old antiquated tools, he is not earning the wages he would were he to use modern implements. Along this line I would like to remark that, as a class, farmers never figure the wages per day they are earning when making a crop, which ought to be the one thing which they should have in view. And another thing they overlook is the most profitable crops to grow. For instance, it is a well known fact that one acre of a good crop of sugar-cane yielding about four hundred gallons of sirup (which is below the average) will put more money in the farmer's pocket (and with less than one-fourth the labor) than will fifteen acres of cotton, even if sold at ten cents a pound and producing the average crop of two hundred and twenty pounds of lint per acre.

The land intended for sugar-cane should be plowed late in the fall, and all decayed vegetable matter left over from previous crops plowed under to form the necessary humus. This plowing should be completed before the first of January. If washing rains should occcur through January and February, soil that is deeply plowed will not be affected by them; but, after these rains, if a dry period should come, the crust on the land should be broken by running a cultivator or weeder over it, so as to form a soil mulch and prevent evaporation of soil moisture, and also to aerate the soil. Some of our most progressive farmers sow rye on land intended for cane, and this acts as a winter cover crop. This practice is specially recommended where the land is rolling and subject to washing, as the rye roots help to bind the soil, and it is an easy matter to plow in the young rye when cultivation of the cane begins.

FERTILIZER.

Fertilization is an important point for a successful crop. The necessary plant foods must be supplied in proper proportions to get the best results. The analysis of the sugarcane crop shows that it is a heavy feeder on ammonia and potash. It does not require much phosphoric acid. It is a difficult matter to set down a rigid formula to be observed in all cases, because every farmer's soil differs from those of his neighbors in so many ways, in moisture, or in chemical and physical conditions, that considerable latitude must be allowed. Under ordinary conditions, on soil plowed not less than ten inches deep, we would apply not less than one thousand pounds per acre of a fertilizer analyzing, 5 per cent ammonia, 4 per cent phosphoric acid, and 10 per cent potash. In the application of this fertilizer care should be exercised to apply it broadcast on freshly worked soil as uniformly as possible, and to mix it thoroughly with the soil by harrow, weeder or cultivator. This had better be done a week or so before planting the seed-canes. The composition of this fertilizer should be along the lines of slow availability, particularly the ammonia ingredients of it. High-grade cottonseed meal is really the most suitable raw material for the purpose; because, being an organic fertilizer, it takes longer in forming the necessary plant food, and as the cane crop is a long season crop this suits it best. The source of potash should be the sulphate, because the chlorine in muriate and kainit injures the flavor of the sirup to a certain extent. The method, in general use, of applying the fertilizer in the furrow is not to be recommended; because in so doing the fertilizer is all in one place, which prevents the healthy action of the root system of the cane.

Our farmers in most cases overlook the fact that the root system of every crop is the foundation on which the crop is made, and if the method of fertilizer application is towards the retarding of the root system, the results in production will not be so satisfactory as if the fertilizer was broadcasted all over the soil and thoroughly mixed in before planting the seed-cane. We therefore urge upon farmers the necessity of broadcasting all the fertilizer.

PLANTING.

When ready to plant the crop, lay off furrows six inches deep, six feet apart. In these furrows plant the canes, cut in three to four-joint lengths, laying them in the furrow so as to lap a few inches. Cover slightly at first, gradually working soil in to this furrow in further cultivation. If the seed-cane is covered deeply at first, as is often done, the probability of getting a good stand is lessened; though a deep furrow should be made, so as to insure as far as possible the deep rooting of the crop. This prevents its blowing down in wind storms late in the season, when the canes are heavy and high winds prevail. One of the best tools is a weeder, run across the rows, thus filling in the seed furrow gradually. In the further cultivation of the crop, shallow running tools are necessary, because the roots feed quite close to the surface and a deep running tool would injure them considerably. In the first stages the weeder is the best tool for the purpose. and if an adjustable one is used it can do the work successfully all the way through. If a weeder is not available, a sweep to run very shallow is the next best. After the crop is half-grown, a top-dressing of about two hundred pounds of nitrate of soda per acre is recommended. This should be mixed with the soil at the time of application, to get the best results.

STRIPPING.

Early in October stripping should begin. All dead leaves should be removed, so as to admit sunlight to the stalks, which helps to sweeten the juice. This can be done at odd times, and so one will be so much work ahead when the rush of harvesting sets in. The crop should be allowed to stand as long as possible before cutting, because immature canes make inferior sirup.

CUTTING.

From the middle to the end of November is time enough to harvest the sugar-cane anywhere in the State. In the preparation for harvesting the first consideration is the topping. The immature joints contain much glucose, and to prevent sugaring of the sirup we need to leave some green joints on the cut cane. About one immature joint to every eight mature ones is a good proportion to maintain in the topping process. After topping, the cane should be cut and windrowed as soon as possible, and in the event of a cold snap, the canes should be covered with leaves or trash of any kind to protect them from the frost.

GRINDING.

When preparing to grind the crop, a heavy mill should be used; because with a light mill the extraction will be low. The location of the mill should be where the juice can be run by gravity to the evaporator. If an inch pipe connects the juice tank with the evaporator, considerable time and trouble will be avoided when making sirup.

STRAINING.

The juice tank demands our close attention, and the straining of the juice as it runs from the mill must be done thoroughly. The best juice tank is made from the half of a barrel, set on a platform right below the mill spout. If black moss is available as a filter the tub should be filled with it. On the top of the juice tub a double layer of cheese cloth should be placed, held in position by a hoop so as to be easily removed for cleaning. Right under the mill spout a piece of common window wire screen should be placed. This will catch the rough trash that runs from the mill with the juice‸ and it can readily be cleaned as often as desired. In fitting the tube to the bottom of the tub it should be inserted so as to be flush with the bottom, and a piece of wire gauze should be fitted on the mouth of the pipe to act as a strainer. These strainers and the moss filter will require cleaning several times a day when in full operation. It is best to have several tubfuls of moss, and when one tubful gets foul to remove, wash and dry it before using it again. This saves waiting for the moss to dry; for to clean it thoroughly, it must be first dried.

EVAPORATING.

The kind of evaporator to use is of importance, and our aim should be to have an evaporator with a large skimming surface. If one is going to use a furnace. the evaporator should be constructed so that it is easy of manipulation. A long box 18 feet by 30 inches, divided into three compartments, will be found satisfactory. It should be made of 2-inch poplar or cypress, about ten inches deep and fitted with a bottom of No. 20 galvanized sheet iron. This is divided into three compartments, the first one a foot or so longer than the others, so as to have plenty of skimming surface for the green sap when it goes in at first. The kind of skimmer is also of importance. The strainer skimmer generally used in sirup-making on the Florida farm, is not a perfect skimmer; for most of the material that it is supposed to remove escapes through the perforations in the bottom and mixes with the boiling juice, thus giving a dark cloudy product of inferior flavor. When the first compartment of the evaporator is filled with juice, the heat should be applied gradually, and it should never be allowed to come to the boiling point. The heavy green scum that rises at first should be removed by means of a board used like a scraper, and taken off into a gutter fitted for the purpose on to the end of the evaporator. When this heavy blanket is removed entirely, the juice should be transferred to the middle compartment through a gate for that purpose. Most of the evaporation should be done in the middle compartment, the sirup being only passed on to the next when it gets nearly ready to run off. The skimming of the boiling juice after the first blanket is removed should be done by a board with a handle to it like a mortarboard. This board should be of planed material, about 14 inches square. By laying it flat on the boiling juice all the scum on the surface adheres to it, and it can then be raised and the scum scraped off by means of a piece of lath into the skimming barrel. The impurities on the surface of the juice are thus entirely removed, and the product will be brighter and of a better flavor than that yielded by the old method of the strainer skimmer. To get a sirup uniform in density, a hydrometer must be used. This instrument costs less than a dollar, and no sirup-maker can afford to be without one. The point of thickness to which to boil is generally considered to be 34 degrees Baueme; and if care is duly exercised, any number of gallons can be made to exactly the same density.

THE PACKAGE.

To get satisfactory prices and make the product more valuable, sirup must be put in glass packages, sealed while hot. If it is thus treated it will keep indefinitely. To put good sirup in barrels or even tin cans is not to be recommended. You cannot sterilize a barrel sufficiently to prevent fermentation when warm weather sets in; and after a time, if put in tin cans, the tin will impart its flavor to the sirup. But when put in glass bottles of a quart capacity, and nicely labeled, the price is always satisfactory. It should be the aim of every sirup-maker to make a good article, put up in air-tight glass packages, sealed while hot, with an attractive label giving the designation of the plantation or farm. When an article is made that can be guaranteed, there will be no trouble in marketing it. The supply of high-grade Florida sirup is never equal to the demand, and if our farmers will co-operate and build central evaporating plants, the industry could be extended until we would have Florida sirup in every market of the world, where the call for it is insistent.

THE VELVET BEAN.

BY JOHN M. SCOTT.

Animal Industrialist and Assistant Director, Experiment Station.

HISTORY.

From the information available, it appears that the velvet bean has been grown in Florida for more than thirty years. However, it received little attention prior to 1895. Up to that date it was used mainly as a covering for trellises, and to screen unsightly places. Since its first trial in 1896, it has been grown each year at the Experiment Station. During the past ten or twelve years it has also been grown on a commercial scale by a goodly number of farmers. Many of these farmers are now growing the velvet bean on a large area for the feeding of cattle, hogs, and other live stock.

The first mention made of velvet beans by the Commissioner of Agriculture was in the statistics for 1901. He estimated that the area grown that year was 10,829 acres. His statistics for 1907-8 gave the area in velvet beans as 22,939 acres. This shows the rapid increase in area of this valuable crop.

The following is a botanical description of the plant by Katherine Stephens Bort, taken from Bulletin 141 of the Bureau of Plant Industry.

Stizolobium deeringianum Bort.—An annual, herbaceous, climbing vine sometimes 20 meters in length when growing on supports, and even on the ground attaining a length of from 2 to 6 meters, bearing long, pendent racemes of purple flowers which produce dark, velvety pods 5 or 6 centimeters long. Stems rather slender, terete, sparsely pubescent, with white, appressed hairs, especially on the ridges. Petioles equalling or exceeding the leaflets, pudescent like the stem, and continued for 2 to 4 centimeters beyond the lateral leaflets; stipules subulate, pubescent, about 1 centimeter long; stipels similar but smaller; petiolules about 5 millimeters long, stout, very pubescent. Leaflets rhomboid-ovate, the lateral ones oblique, membranaceous, acuminate-cuspidate, 5 to 15 centimeters long, about half as broad, sparcely pubescent above, especially on the veins, more densely pubescent beneath, the white hairs closely appressed. Inflorescence a raceme or thyrsus 15 to 30 centimeters long, pendent, bearing 5 to 30 flowers, usually about 12; rachis like the stem, but more pubescent; flowers borne singly or in twos or threes on short lateral branchlets. Bracts lanceolate-subulate, very pubescent, early fugacious. Calyx pubescent within and without with short, white, appressed hairs, 2-lipped, the upper lip broadly triangular, the lower lip 3-cleft, the lobes triangular-subulate, the middle one longest; stinging hairs absent. Corolla dark purple, 3 to 4 centimeters long; standard less than half the length of the keel, darker than the rest of the flower; wings slightly shorter than the keel, rather broad, oblanceolate-oblong, obtuse; keel straight to near the tip, where it curves sharply upward, the tip firm and acute; anthers of two sorts alternately long and short, the latter on much broader filaments; ovary linear, pubescent; style filiform, pubescent nearly to the tip; stigma small. Pods when mature 5 to 6 centimeters long, turgid, densely covered with a soft, nearly black, velvety pubescence without stinging hairs; valves with 1 or 2 or sometimes 3 obscure longitudinal ridges. Seeds 3 to 5 in each pod, subglobose, marbled and speckled with brown or black, and sometimes both, on ash-gray ground color (though pure gray and, it is said, pure black occur rarely), 1 to 1.5 centimeters in diameter. Hilum white, oblong-crateriform, less than one-half the length of the seed.

The velvet bean may properly be classed as a tropical plant, and requires a long season to produce its maximum growth of vine and production of seed. The plant will grow as far north as the central part of Missouri, but at that latitude it will not produce seed. It will not yield a profitable crop of seed more than 200 miles north of the Gulf Coast. Its culture is thus limited to the southern portion of the Gulf States.

PLANTING.

Time of Planting.—The time of planting depends largely upon the purpose for which the crop is grown. If planted for a cover crop to be plowed under the following fall and winter, or for a winter pasture for live stock, or for a crop of seed, the velvet bean should be planted early in spring, and not later than May 1, for north central Florida. If the crop is to be used for hay, planting may be done any time from May 20 to July 1. Planted at this late date, the vines do not make such a vigorous growth, nor is there such a heavy crop of seed produced. With the smaller growth of vines little difficulty will be experienced in cutting and curing the crop for hay. It is not advisable to plant too early in the season, for the beans do not grow well until the soil is thoroughly warm. It frequently happens that too early planting results in a poor stand. This is generally due to the days and nights being cool, in which case the young plants make a slow unsatisfactory growth and are more likely to be attacked by disease. A stunted or diseased plant never produces so satisfactory a growth as does a plant that has not been checked when young. As a rule it will perhaps be found best to delay planting until March 15 for south, March 25 for south-central, April 1 for north-central, and April 10 for north and west Florida.

Velvet beans planted at the Experiment Station during the latter part of June, 1909, produced only a light crop of seed; while those planted from the middle of April to

May 1 gave a good crop of beans. We find that velvet beans planted in the latter part of April will produce three to four times as many beans as those planted later than June 20.

SEED.

To secure the largest yield of beans it will be found necessary to plant only good sound seed. In this way a better stand will be secured, for the young plants will be stronger and more able to withstand unfavorable conditions.

Some farmers plant the beans in the pod. Before planting, the beans are soaked over night in water to soften the pods and hasten germination. This method is one that should not be encouraged, for the following reasons: (1) When planting pods and all, no method of seed selection can be practiced. (2) It requires more seed. This is a point worth considering, for oftentimes seed is not plentiful and is expensive. (3) When the beans are planted in the pod it is not possible to plant by machinery, and so the cost of planting is considerably increased. (4) It will not be possible to get so good a germination, and an uneven stand means an unsatisfactory yield..

SEED SELECTION.

It is possible to increase the yield of velvet beans by seed selection the same as with any other farm crop. The past year an acre plot was taken on which velvet beans were planted. One-half of this plot was planted with seed just as it came from the huller. The other half was planted with seed that had been selected; that is, all the small, shriveled, and faulty beans were rejected, and only the large, well-developed ones were planted. The selected seed produced 33.79 bushels of shelled beans, while the unselected seed produced only 28.37 bushels per acre; a difference of 5.42 bushels in favor of the selected seed. This increase in yield is equal to an increased gross income of about $10 per acre from the crop.

PREPARATION OF SEED-BED.

The preparation of the seed-bed is too often neglected by the busy farmer. One method of preparing the seed-bed that is commonly practiced and one which should be discouraged, is that of plowing two, or possibly four, small furrows, just enough to cover the beans, and leaving the middles to be plowed later or not at all. This is an expensive method of preparing the seed-bed; for, as a rule, not more than half a crop is obtained. Such a method cannot be called good farming. Velvet beans are an easy crop to raise, but they are too valuable a crop to be handled in a slipshod way. It has been demonstrated more than once that thorough preparation of the seed-bed before planting will reduce the after cultivation of the crop by one-half. (This applies not only to velvet beans but to all farm crops.) Plow the ground in December or January thoroughly to a depth of 6 inches. Harrow each day's plowing in the evening, and use the harrow every ten days thereafter, until the beans have been planted. This harrowing will tend to conserve the soil moisture. Farmers who practice this method of soil preparation experience little difficulty in conserving sufficient soil moisture to insure good germination.

METHOD OF PLANTING.

The beans may be broadcasted or planted in rows. The best results, however, will be obtained if the beans are planted in rows four feet apart; or, which is still better, in rows six or eight feet apart with a row of corn between. If planted in rows four feet apart and from ten to fifteen inches in the drill, one bushel of good seed will plant four acres. When the velvet beans are planted alone, they make such a dense growth that they smother one another, and so do not produce the maximum yield of seed. This difficulty can be overcome, to a large extent, by planting alternate rows with corn or sorghum. During the season of 1907 a comparison of yields was made between velvet beans grown alone, and those planted in alternate rows with corn. The yield of beans when planted alone in rows four feet apart, was 2,258 pounds of beans in the pod, or 22.5 bushels of shelled beans per acre. The yield when planted in alternate rows with corn, the rows of beans being eight feet apart with a row of corn between, was 2,035 pounds of beans in the pod, or 20.3 bushels of shelled beans per acre. This shows only a difference of 2.2 bushels of shelled beans per acre. No account was kept of the yield of corn secured from this acre, but is was perhaps five to ten bushels.

CULTIVATION.

When the velvet beans are planted in rows, the land admits of cultivation until the plants have attained a considerable growth and have begun to form long vines. This cultivation keeps the soil in good condition by admitting more heat and air, which stimulate growth. It also keeps down objectionable weeds. After the velvet beans have made a good growth, they cover the ground so completely that all weeds and grass are crowded out. For this reason they are an excellent cover crop for land that is badly infested with weeds.

FERTILIZER.

All of our experiments so far indicate that the velvet bean is a crop that does not require the application of any fertilizer. An increased yield may sometimes be obtained, but it costs more than it is worth. The following table shows the results of a fertilizer test conducted during the season of 1907:

TABLE XVIII.

Fertilizer Test of Velvet Beans.

Plot	Amounts of Fertilizer per Acre.			Yield of Shelled Beans per Acre.	
	Dried Blood Pounds.	Acid Phosphate Pounds.	Muriate of Potash Pounds.	Pounds.	Bushels
1	....	....	....	1275	21.3
2	50	....	....	1161	19.4
3	....	....	40	1311	21.9
4	....	180	....	1278	21.3
5	50	....	40	1278	21.3
6	50	180	....	1236	20.6
7	....	180	40	1275	21.3
8	50	180	40	1150	19.2
9	75	270	60	1254	20.9
10	100	360	80	1569	26.2

Plot 10, which received most fertilizer, showed an increased yield, but the value of the increase in yield was not sufficient to pay for the additional fertilizer.

HARVESTING.

The time of harvesting this crop may be left to the pleasure of the farmer. The beans may be left in the field all winter, and the loss from decay will be small. Hence if grown for winter pasture they may be pastured any time from December to March. If the crop is grown for seed, it would be advisable to harvest as early in December or January as possible, so that the seed may be hulled and put on the market before spring planting begins. However, it is not advisable to harvest until the vines have been killed by a frost. If grown as a soil renovator, and not intended for winter pasture, they should be plowed under in December if possible, so as to give the leaves and vines a longer time to decay and rot before spring planting begins. If the crop is to be used for hay, cutting should be done when the young pods are well formed.

USES.

There are few other crops that can be put to so many uses and give such satisfactory results. This plant was first used and is still used for growing on trellises and screens for covering unsightly places. For this purpose it is excellent, as it makes a quick rank growth. It is also grown as a cover crop. Here again it is excellent. However, like every crop, it has its peculiar drawbacks. In citrus groves it is objectionable from its method of growth. The vines grow so rampantly that if not kept under control they will in a short time completely cover the citrus trees, the result of which is that they cut off the light and starve the trees, by shading them. Then, too, the vines are much in the way when gathering the fruit. It is when used as a cover crop on bare land, that the best results are obtained. The shelled beans have been used by some as human food, but this use is limited. The most important uses for the velvet bean are as a soil renovator, and as feed for the production of meat and dairy products.

AS A SOIL RENOVATOR.

A soil renovator may be defined as a crop that will renew or improve a soil that ceases to be productive, and will even increase the productive powers of some virgin soils. Soils that have been cropped continuously for a number of years by one crop become unproductive, or cease to produce their maximum yields. Virgin soils may not always produce satisfactory yields of certain crops, for new soils may sometimes be raw and unproductive. For the purpose of assisting in correcting these unfavorable conditions, the velvet bean has been found of great use.

Plants belonging to the order of legume-bearers, or pod-bearers, such as cowpeas, beggarweed, and velvet beans, may be considered as soil improvers. This is because the plants belonging to this order are capable of abstracting nitrogen from the atmosphere. The nitrogen thus obtained from the air is deposited in the root-tubercles of the plants in such a form that it is quickly available to the growing plant. Some of it remains in the soil to be used by the succeeding crop. The presence of the ammonia in the roots of these plants is made known by the nodules which are found on the roots. These nodules vary in size from a mere speck to the size of a pecan. It is in these nodules that the ammonia is stored. When the growing plant matures, the nodules decompose and the unused part of the ammonia is left in the soil to be taken up by the succeeding crop. All of the ammonia taken up by the roots is not stored in these nodules for it is distributed to all parts of the plant. In fact the greater part is found in the vines, leaves, and seeds. The amount of nitrogen left in soil by the roots only is worth considering. If on the other hand, velvet beans are grown, and the entire crop, when matured, plowed under as a fertilizer, the amount of ammonia added to the soil is equal to an application of about 1900 pounds per acre of cottonseed meal, analyzing 7.5 per cent ammonia. Much the same is true of other leguminous plants. However, the amount of ammonia that may be left in the soil by any leguminous plant depends largely upon the amount of growth the crop makes. The larger the growth of vines, the more ammonia and humus are added to the soil. There is quite a long list of leguminous plants which are found in Florida. Out of this number there are perhaps only three that are employed to any large extent as soil improvers. These are of importance in the order named: Velvet beans, cowpeas, and beggarweed. The advantages of velvet beans over cowpeas are: (1) Velvet beans are not attacked by the nematode which causes root-knot; (2) velvet beans generally make a heavier growth of vines, and so add more ammonia and humus to the soil; (3) when velvet beans are killed by frost the vines and leaves go down on the ground together, and the mass of vines tends to hold the leaves in place until they are plowed under. With the cowpeas, only the leaves fall when killed by frost; the vines remain in an upright position, and the wind tends to scatter the leaves. It is not uncommon, where cowpeas have been grown as a soil improver, to see large areas of the field blown bare. The yield that may be secured from beggarweed is considerably below the yield of velvet beans or cowpeas. However, ton for ton, these three crops are about equal as a source of ammonia and humus. One advantage beggarweed has over cowpeas, is that it is not attacked by the nematode which causes root-knot.

TABLE XIX.

The Value of Velvet Beans as a Soil Improver in Florida.

(From Florida Agricultural Experiment Station
Bulletin 60.)

	Pounds.
Weight of green material from an acre	21132
Weight of dried material from an acre	5953
Weight of dried roots from an acre	690
Weight of nitrogen in vines from an acre	131.5
Weight of nitrogen in roots from an acre	9.7
Total nitrogen in crop from an acre	141.2

Most of the nodules had already decomposed, and the nitrogen from these was not included.

Bulletin 95 of the Alabama Experiment Station gives some valuable information as to the use of the velvet bean as a soil improver. The following table is taken from that bulletin:

TABLE XX.

Yield of Oats Grown After Cowpeas, Velvet Beans, Crab-Grass and Millet.

	Yield Per Acre. Grain Bushels.	 Straw Pounds.
Av. after velvet bean vines and stubble.	33.6	1439
Av. after cowpea vines and stubble....	31.6	1738
Av. after crabgrass and millet stubble..	8.4	296

This table shows the average results of plots on one of which only the stubble and on the other the vines were plowed under as a fertilizer.

The above table shows conclusively the value of the velvet bean as a source of ammonia for fertilizing. Ammonia is the most expensive fertilizing element we have to buy, and if we can produce it on the farm by growing these leguminous plants it will cost only half as much as it would if bought in the form of cottonseed meal or dried blood. Aside from the ammonia obtained by growing velvet beans, there is another very important fact that must be considered, that is, the large amount of humus that can be added to our soils by growing velvet beans and plowing under the dried vines. Humus is usually formed from decayed vegetable matter; such as decayed corn or cotton stalks, roots of all kinds, grass, weeds, and vines of all kinds. When these plants decay and become a part of the soil, the light yellow or gray sandy soil is changed to a dark or even black color. The more decayed organic material (humus) in the soil, the darker the color.

The humus in the soil does not add fertility to the soil, apart from the plant-food in the vegetable substances from which it is formed; but it aids plants in obtaining more fertility from the soil. As we increase the percentage of humus in the soil, we at the same time increase the water and fertilizer-holding capacity of the soil. All plant-food must be in solution before it can be taken up and used by the plant. Hence humus increases the plant-food-holding capacity of the soil Humus furnishes food for the growth and development of useful micro-organisms. These micro-organisms assist in changing the unavailable forms of plant-food into available forms. Humus also improves the mechanical condition of the soil. Hard tenacious soils are made loose and mellow by the addition of humus. The greatest lack of our soils, other than that of plant-food, is humus. Many of our soils are sandy, with little or no humus. These soils generally are the most productive which contain a large percentage of humus.

As Forage.

Perhaps the velvet bean is the best legume for Florida. It without doubt provides the best and cheapest protein that we can secure from any winter forage crop that we can grow. Although the velvet bean does not furnish a green pasture at any season of the year, yet it supplies good protein foraging from December or January until grass comes in the spring.

The yield per acre varies according to conditions, but from one ton to one ton and a half of beans in the pod is not too much to expect. One hundred pounds of beans in the pod will shell out sixty pounds of beans (one bushel).

It is usually estimated that one acre to one acre and a half of velvet beans will be enough to fatten one animal. Cattle do not eat more than fifty per cent of the leaves and vines and none of the roots; therefore, there is a large amount of fertility left in the soil for the succeeding crop.

As Feed.

Up to the present time there have been but few feeding experiments conducted in which velvet beans have been used. However, all experiments indicate that the velvet bean is a valuable meat and milk product. More than that, it is among the cheapest, if not the very cheapest, of the protein feeds that the Florida farmer can produce on the farm.

The farmer can always, under ordinary conditions, produce feed on the farm cheaper than he can purchase it on the market. It is also generally true that the farmer can secure a larger profit from his crops by feeding them to live stock on the farm and selling the meat and dairy products, than by selling the crops direct.

FOR PORK PRODUCTION.

The writer has no definite information of any feeding experiment having been conducted with velvet beans for pork production. However, numerous farmers throughout the State have used them extensively for this purpose. The almost unanimous opinion of these men is that velvet beans are a good pork producer so far as increase in weight is concerned. The fat produced, however, has a dark, dirty appearance, with a disagreable odor and taste. This difficulty may perhaps be overcome by using the velvet beans in combination with other feeds, such as corn, cassava, sweet potatoes, or Japanese cane. It is well known that peanuts, when fed alone to hogs, produce a soft, undesirable quality of fat. But when fed in combination with corn, and other feeds this trouble is to a large extent overcome. Hence it would be reasonable to expect similar results with velvet beans when fed in combination with other feeds.

FOR BEEF PRODUCTION.

Sixteen head of steers were used in the experiment. These steers were bred and raised by S. H. Gaitskill, of McIntosh, Fla., and were from native Florida cows, sired by a well-bred Shorthorn bull. The steers were divided into four lots of four steers each, as nearly equal in weight and quality as possible. Each lot was weighed at the beginning, and every thirty days until the end of the experiment. The weighings were all done in the morning, after feeding hay and grain, but before watering. The weights given are averages of three weighings on three consecutive days. The weights were all taken on a pair of wagon scales, which were located near the feed-lots. A chute connected the yard with the scales. The feeding-yard for each lot of steers was 75 by 100 feet.

The crab-grass hay, velvet beans, and sorghum silage used in this feeding test were grown on the station farm, and for the experiment were estimated at $4.00, $6.00, and $3.00 per ton, respectively—which is about the actual cost of production. The corn, cottonseed meal, and cottonseed hulls were purchased on the market, and when delivered at the railroad station cost: corn, $1.58; cottonseed meal, $1.50; and cottonseed hulls, $0.73 per hundred.

TABLE XXI.

Rations Per Thousand Pounds Live Weight.

	Lot I Pounds	Lot II Pounds	Lot III Pounds	LOT IV* Pounds
Corn	10.5	6.0	8.0	....
Cottonseed meal	3.75	5.0	....	6.5
Crabgrass hay	13.5	....	....	....
Sorghum silage	....	20.0	....	....
Cottonseed hulls	....	14.0	10.0	25.0
Velvet beans in pod	....	....	12.0	....
Nutritive ratio	1.6	1.6	1.6.5	1.4.8

*On February 16 the feed of this lot was changed to one pound of meal to three pounds of hulls. This was done because the steers did not eat their feed well, and appeared to have too much roughage for the amount of concentrate they were getting.

TABLE XXII.

Feeds Consumed.

	Lot I Pounds.	Lot II Pounds.	Lot III Pounds.	Lot IV Pounds.
Corn	3314	1880	2528	......
Cottonseed meal	1179	1576.5	......	1963
Crabgrass hay	4370	......	......	......
Sorghum silage	......	6288	......	......
Cottonseed hulls	......	4408	3144	6174
Velvet beans in pod	......	......	3760	......
Total	8863	14152.5	9432	8137
Average daily roughage per head	13.00	31.83	13.83	18.37

TABLE XXIII.

Weights and Gains by Periods.

	Lot I Pounds.	Lot II Pounds.	Lot III Pounds.	Lot IV Pounds.
January 15—Beginning	2920	2891	2818	2869
February 14—Thirty days	3218	3128	3106	3010
March 15—Sixty days	3481	3427	3415	3166
April 8—Eighty-four days.	3788	3782	3800	3490
Lbs. gained in 30 days	298	237	288	141
Lbs. gained second 30 days	263	299	309	156
Lbs. gained in last 24 days.	307	355	385	324

TABLE XXIV.

Gains and Costs.

	Lot I Pounds.	Lot II Pounds.	Lot III Pounds.	Lot IV Pounds.
Weight at beginning of test	2920	2891	2818	2869
Weight at end of test.....	3788	3782	3800	3490
Total gains	868	891	982	621
Average gain per head.....	217	225.25	245.5	155.25
Average daily gain per head	2.58	2.68	2.92	1.85
Average daily gain per 1000 lbs. live weight	3.54	3.71	4.15	2.58
Pounds feed for one pound of gain	10.2	15.9	9.6	13.1
Cost of one pound of gain..	$.0907	$.1065	$.0755	$.1200

Table XXIV shows the weights and gains per lot and per head, the average daily gain, the pounds of food required to make one pound of gain, and the cost of one pound of gain. A glance at this table shows that the steers in Lot III not only made the best gains, but the cost per pound of gain was considerably less than for the other lots of steers. It will be noticed that the cost of one pound of gain decreases when the average daily gain increases. The amount of feed consumed does not wholly determine the average daily gain or the cost per pound of gain. But the nutritive ratio of the rations fed, as is seen in the case of Lot IV, to a large extent controls the average daily gain, and the cost per pound of gain. The nearer a balanced ration is fed (nutritive ratio 1:6 or 1:7), the larger average daily gain may be expected, and the cheaper will be the gain per pound. It will be seen that the steers in Lot IV, on cottonseed meal and cottonseed hulls, made only an average daily gain of 1.85 pounds.

FOR MILK PRODUCTION.

During the winter of 1908-9 a test of feeds for milk production was conducted at this Station. The feeds tested were, velvet beans in the pod, wheat bran, and sorghum silage, compared with cottonseed meal (7.5 per cent. ammonia), wheat bran, and sorghum silage. This test indicates that 2.83 pounds of velvet beans in the pod are equal to one pound of cottonseed meal, analyzing 7.5 per cent ammonia. One ton of cottonseed meal costs on the market five times what it costs the farmer to raise one ton of velvet beans in the pod. The results of this test show that in feeding value, for milk production, 2,000 pounds of cottonseed meal are equal to 5,660 pounds of velvet beans in the pod.

But 2,000 pounds cottonseed meal cost	$30.00
5,660 pounds velvet beans in pod can be grown by the farmer for	16.98
A saving in favor of velvet beans of ...	$13.02

The cost of planting and cultivating velvet beans is estimated at $6.00 per acre, the yield being taken as 2,000 pounds per acre. This is a liberal allowance for the cost of producing an acre, and the estimated yield is what would be considered only a fair crop. The following table gives the results of the milk test in detail.

TABLE XXV.

Amounts of Seed Consumed and Milk Produced.

First Period—January 20 to February 9, 1909.

	Lot I. Pounds.
Velvet Beans in pod	267.75
Wheat bran	630

Sorghum silage	2142
Milk produced	1069.3

	Lot II. Pounds.
Cottonseed Meal	94.5
Wheat bran	630
Sorghum silage	1543.5
Milk produced	879.2

Second Period—Feb. 17 to Mch. 9, 1909.

	Lot I. Pounds.
Cottonseed meal	94.5
Wheat bran	630
Sorghum silage	1543.5
Milk produced	1077.3

	Lot II. Pounds.
Velvet beans in pod	267.75
Wheat bran	630
Sorghum silage	2142
Milk produced	858.3

Third Period—Mar. 17 to Apr. 6, 1909.

	Lot I. Pounds.
Velvet beans in pods	267.75
Wheat bran	630
Sorghum silage	2142
Milk produced	952.5

	Lot II. Pounds.
Cottonseed meal	94.5
Wheat bran	630
Sorghum silage	1543.5
Milk produced	714.7

	Lbs. of Milk.
On the average 267.75 pounds of velvet beans in pod, fed with bran and silage produced	934.6
And 94.5 pounds of cottonseed meal, fed with bran and less silage, produced	937.1

RATIONS FED PER DIEM.

	Pounds.
Velvet beans in pods	4.25
Wheat bran	10
Sorghum silage	34

	Pounds.
Cottonseed meal	1.5
Wheat bran	10
Sorghum silage	24.5

OBJECTIONS TO VELVET BEANS AS FEED.

There have been some reports from stockmen in the State to the effect that velvet beans sometimes cause abortion among both cattle and hogs, and also blind staggers in horses. When we consider the large number of animals fed entirely or partially on velvet beans, the percentage of these adverse reports is small.

The velvet bean is a highly nitrogenous feed, and like other such feeds, care and judgment must be used in its feeding. Any highly nitrogenous feed, whether velvet beans, cottonseed meal, oil-meal, or peanuts, when fed alone or in large amounts is likely to cause various intestinal troubles. It may even go further than that, and cause abortion among all classes of live stock. However, these troubles may be avoided by feeding velvet beans in moderate amounts and in combination with other foods.

It will be found that the velvet-bean hay when fed exclusively to horses is likely to cause kidney trouble. This, however, can be overcome by feeding a smaller quantity of velvet-bean hay together with some crab-grass hay. Equal parts of each will give good results.

INSECT ENEMIES.

The velvet bean has but few insect enemies. The only one causing serious injury is the caterpillar of *Anticarsia gemmatilis.* This caterpillar does not usually attack the growing crop until about the time the velvet beans are beginning to bloom. The first appearnce of the insect is marked by the small holes eaten in the leaves. As the larvae increase in size and number they continue to devour the leaves until there is nothing left of the plants but the bare stems.

The following account is taken from Bulletin 54 of the Bureau of Entomology, U. S. Dept. of Agr., pp. 77 and 78:

"The caterpillar of this species is long and slender, cylindrical, the last pair of legs projecting backward and spreading. The body is sparsely coated with rather stiff black hairs which arise from small white button-like tubercles. The head is large, a little wider and higher than the body, rounded, and with a slight notch in the middle. The head is orange yellow or greenish yellow with a few small blackish dots. The general color of the body varies from dull green to olive brown, which becomes yellow in inflated specimens. It has a number of fine white lines, one dorsal, two lateral—separated by a blackish shade—and a distinct yellow and white pair along the stigmata or breathing holes, with a little dark edging below. It has eight pairs of legs. The mature larva measures about one and one-half inches in length, and one-sixth inch in width.

"The moth is also ornamental in spite of its somewhat somber colors—dull brownish gray with darker brown shades. The body is stout and narrowed to the apex. The expanse of the fore-wings is about one and one-half inches.

"Blackbirds and rice birds eat them, but the insects are often too nimble for the more clumsy birds, and many escape. When, however, the birds are in large flocks, as frequently happens, they must undoubtedly be of service. The 'greensparrow' was said to be the most active as well as successful enemy of the larvae. These birds, however, do not occur in great numbers, but one of them would get in under a vine and pick off larva after larva. The larvae remain on the under sides of the leaves."

REMEDY.

Paris green applied as a dust spray has been found effective in destroying these caterpillars. Apply at the rate of 1 to 3 pounds of Paris green per acre. Mix the Paris green with air-slaked lime in the proportion of one pound of Paris green to three pounds of air-slaked lime See that the lime and Paris green are evenly mixed. The mixture can be easily and cheaply applied. It is placed in a sack made of any loosely woven material. A bran sack will be found good. Attach two sacks of this kind to the end of a board. Balance the board on a mule's back. Have a boy ride the mule up and down the rows of velvet beans. The continued motion of the mule will dust sufficient Paris green upon the foliage to poison the caterpillars. If the motion of the mule fails to dust sufficient Paris green upon the foliage, have the boy hit the board gently with his hand. The length of the board will depend upon the width of the rows of velvet beans. The board should extend far enough on each side of the mule to cover one row. If the rows are four feet apart the board should be about six feet long.

There need be no fear of loss of life among live stock pasturing velvet beans that have been sprayed with Paris green. The amount of Paris green used is too small to injure cattle, and the rains soon wash it off the foliage and it disappears in the soil.

IMPORTANT FACTS.

1. An acre of velvet bean vines, when plowed under, will add as much ammonia to the soil as will an application of 1,900 pounds of cottonseed meal.

2. The velvet bean is an important protein feed for the production of meat and dairy products, and furnishes excellent winter foraging for cattle and hogs.

3. The velvet bean is a highly nitrogenous feed; hence care and judgment must be exercised in feeding it, or results may prove unsatisfactory.

4. A yield of twenty to thirty bushels of shelled beans per acre is not too much to expect, while a much larger yield of beans may be secured when planted with corn or sorghum.

5. Three pounds of velvet beans in the pod will be found equal for milk production to one pound of cottonseed meal, analyzing 7.5 per cent ammonia.

CELERY GROWING IN FLORIDA.

Celery has for many years been recognized as one of the greatest luxuries of the garden and while there are no special difficulties in the way of its cultivation, it is grown by comparatively very few. The plant is a native of England, where it grows in a wild state in favorable localities. It is also a native of and occurs in several localities in Florida in its wild state, though in this condition it is not fit to eat except by wild water fowl, as it contains a poisonous principle making it dangerous as human food.

Although it has been grown for market in various sections of the country in a comparatively small way for many years, it is really little more than ten years since it became one of the most important commercial vegetable crops. The first experiments in its cultivation were not without failure by any means, for they were many, but gradually success was generally the rule, and with well defined methods, the growing of celery became a commercial success.

Celery requires in both its early and late stages of growth a cool, moist atmosphere, and consequently does not do well under extremes of heat or drought. In Florida the seeds are sown in the open generally, protection being rarely necessary. The soil must be a rich loam, or other soil and means added to obtain the same character as nearly as possible, but it should be loose and rich, soil that has been previously cultivated and manured heavily being considered the very best. The seed bed may be any length desired, but from three to five feet is the best width, most growers use three feet widths.

Seed beds are prepared generally in August and September. The most successful celery growers in Florida prepare their seed beds some two to three weeks before time for planting the seed, the bed having previously been well manured, thus time enough is allowed to elapse for the manure to become thoroughly assimilated. The seed being very small must not be too deeply covered. Germination of the seed may be hastened by packing the soil over the seed immediately after sowing by means of a smooth board six or eight inches wide and three or more feet long, as may be necessary. Mark off the rows for planting the seed across the beds in the following manner. "Take a five-inch plank, three feet long; nail a lath on each edge, projecting one-fourth of an inch on one side. With this make marks across the beds by pressing it down on the beds. Scatter or sprinkle in the seeds thinly and cover by sprinkling or sifting light soil or sand over the rows. A good idea is to cover the beds with old gunny sacks, Spanish moss or by laying a corn stalk along each side of the drill, but not directly over it and keep fairly wet till the seeds sprout, which, under favorable conditions, will be in from eight to twelve days. As soon as the seeds are well sprouted and show that they are coming up it is best to cover them as a protection against both hot sun and heavy rains, removing the cover in the evening till next morning. Each day as the plants grow stronger, a little more sunlight can be given them till in a few days they will, under ordinary circumstances, be able to remain uncovered all day. Keep the beds moist, not letting them become dry at any time. When the plants are well above ground, say about an inch high, it is a good plan to put a little fertilizer between the rows and either stir into the surface gently or let it be distributed by a gentle sprinkling of water, either or both is good. Gentle working of the surface to keep down the weeds should be given once every few days. When plants are two or three inches high they are about ready to transplant to other beds though some growers prefer to wait till the plants are larger, and some do not transplant but once and that direct from the original bed to the fields.

None but the best stocky plants should be used, as spindling plants rarely develop into profitable growth. Celery has been and can be grown on almost all of the soils of Florida, the best soil, however, being the low hammock lands when well drained, but any soil loose in texture and containing a good supply of humus will, under proper management produce fine crops. As before stated, a soil of a cool nature should be selected if obtainable, as the plant develops better and is less liable to attacks of injurious diseases. Folowing in concise form are the methods used in South Florida in connection with the system of irrigation practiced in Orange County.

"The plot to be planted should be well supplied with water either from artesian wells, steam pumps or natural sources. Many of the most successful growers are tile draining their lands, the tiles being placed from a foot and a half to two feet under ground. The joints are covered with cinders, sawdust or even moss, to keep the sand out and let the water pass in or out as necessary. These drains are placed about twenty-five feet apart, and are so arranged that they can be used to drain the land during heavy rains or to irrigate it when it is dry. After the draining and irrigating system is completed, no pains should be spared, or labor omitted to reduce the soil to perfect tilth so that the innumerable fine feeding roots of the plant can penetrate the soil in every direction."

In sections where overhead or sprinkling and surface systems of irrigation are practiced the same principles will apply, and can be adapted to suit conditions, but one thing must be remembered, the plants whether in bed or field must not be permitted to suffer from lack of water any more than they must be over watered. All manures applied to the soil should be in the most perfect condition—soluble and available—whether it be in the form of commercial or barnyard manure; the latter should be thoroughly decomposed, evenly distributed broadcast and harrowed in well. At this stage, the general custom is to also apply about a ton of first-class commercial fertilizer to the land and harrow till thoroughly incorporated into the soil.

A well known authority on this subject says: "When plants are ready for transplanting take great care to have these in each row of uniform size. To acomplish this, put the large and small plants in alternate rows, as the larger ones will often be ready for market from ten days to two weeks prior to the smaller ones. There is no use setting celery plants in dry soil. If there has been lack of rain as is often the case in October and November in Florida, then turn on the irrigating plant till the land is thoroughly moist, and then water the plants freely. In setting the plants remember the rows must be absolutely straight. Use a line as a guide and run a cleated roller over the ground to mark the place for each plant. Setting in double rows is seldom practiced, and the rule now is to set plants four inches apart in single rows twenty-eight to thirty inches in width, giving about 60,000 plants to the acre. Droppers immediately preceding the plant setter, place the plants at the marks along the line. The plants are quickly placed in the holes made by a round dibble or garden trowel the depth of the center or heart leaf and the soil placed firmly along side of the plant over the roots by pushing the dibble to the depth of the root and bearing towards the plant, afterwards closing up the depression made by the dibble to prevent drying out of the soil near the roots; thus *firm the soil.* When the soil is wet, celery plants will usually live even though carelessly set."

Either of the following formulas for commercial fertilizer are good for celery, and the one which seems best adapted to the soil and conditions can be used, or any other approximately similar:

1	300 lbs	Nitrate of Soda......		
	800 lbs	Fish Scrap		6.9 pr. ct. Ammonia
	600 lbs	Acid Phos., 13 pr. ct.	yields	5.5 pr. ct. Avail. phos. acid
	300 lbs	Muriate potash......		7.8 pr. ct. Potash
	2,000 lbs.			

2	250 lbs	Nitrate of Soda	yields	7.2 pr. ct. Ammonia 5.5 pr. ct. Avail. phos. acid 7.8 pr. ct. Potash
	600 lbs	Dried Blood		
	850 lbs	Acid Phos., 13 pr. ct.		
	300 lbs	Muriate Potash		
	2,000 lbs.			

During the growth of the crop from one to two tons per acre of the above may be applied between the rows, and from two to four hundred pounds of nitrate of soda per acre as a top dressing in four equal applications at about four different times.

To make the cultivation of celery a success it must be worked often, in fact, it is not too much to say that the oftener it is worked the better, just so it is not disturbed or handled while the plant is wet with dew or rain, or while the soil is wet, or it will cause rust to the plant and pack the soil. The best implements for use near the plants when small are the hand cultivators with wheel hoes and small blades, while the middles can be worked out well with horse hoes on similar, larger implements.

When the weather is cool during the winter months, be very careful not to apply too much water, as it may make your soil soggy and check the growth of the plants.

Blanching is done almost entirely with twelve-inch boards placed close alongside the rows of plants. It is found to be much better, takes much less time to blanche, and avoids the danger of the loose soil falling into the crown of the plants, as was the case when blanching was done by drawing the earth up against the plant. It requires only from twelve to fifteen days to blanche the plants to the creamy yellow color so desirable in celery, where boards are used. The above suggestions are applicable to celery growing in all sections of the State by simply observing and adapting them to the prevailing climatic conditions and seasons.

Four ounces of seed is sufficient to plant an acre.

Crates of standard size can readily be obtained from any one of the numerous crate manufacturers throughout the State.

COMMERCIAL LETTUCE GROWING IN FLORIDA.

This plant has been cultivated for more than twenty centuries, and apparently contiues to increase in popularity every year with all classes of people. Few plants are more easily grown, and yet with the enormous demand for it it is still a luxury on most tables, merely because so comparatively few gardeners take the trouble to grow it at the season of the year when it is most appreciated. The best varieties are to a great degree intolerant of hot sunshine, but thrive well with but very little protection from either hot sun or cold snaps, from October to the first of June.

The quality of the lettuce crop is more or less influenced by the kind of soil upon which it is grown, and while some soils are inferior for the work, their character may be changed to such a degree, by careful management, as to give satisfactory results.

The soils may be divided into three classes—light soils, heavy soils (those containing a good deal of clay), and medium soils, as the various grades of loamy soils,—clay loam, fine sandy loam and sandy loam. All things considered, the ideal soils for the development of this crop are those of the best sandy loam, resting on a clay subsoil twelve to fifteen inches below the surface and well drained. A soil retentative of moisture and plant-food must have a more or less impervious clay subsoil, for, no matter how suitable the surface soil may be, unless there is clay beneath it the plant-food on becoming soluble will quickly leach out and be lost if it is not taken up by the crop. Deep sandy soils, though quicker in their action than heavier soil, if constantly irrigated and fed, are nevertheless expensive in both fertilizer and irrigation. In selecting a soil for lettuce growing, or, in fact for any truck crop, it is best to look carefully into the character and position of the subsoil.

Lettuce thrive best on a very rich, loamy, moist soil, well drained so there will be no water-sogging after rains, and in common with all quick-growing crops, requires a large amount of humus in the soil. Barnyard manure is one of the best and surest means of adding humus to the soil, but because of its scarcity it is not always available, so the next best and cheapest source of organic matter is by the use of cover crops of the legume order. Lettuce growers should see to it that whenever their lettuce soils are not under crop they should be storing humus and nitrogen from a crop of some legume; cowpeas or velvet beans are best. To make lettuce growing a success, humus must be supplied, and it may as well be set down as an incontrovertible fact, that where there is no humus in the soil there will be no lettuce. A rich soil is absolutely necessary. If you haven't got it, and are not willing to bear the expense of making it, don't plant lettuce.

Prepare the land by plowing deeply; scatter broadcast stable manure or well-rotted compost, and harrow in well till the soil is in finest tilth and the manure thoroughly incorporated with the soil seven days, or even two weeks, before the time for setting out the plants; it is also a good plan to apply before harrowing from one thousand to one thousand five hundred pounds per acre of a high-grade commercial fertilizer, as an adjunct to the stable manure, etc., and that it may be well assimilated by the soil before time for setting.

Plants are ready for setting at from four to six weeks after sowing the seed, at which time they should be from three to five inches high. Set only vigorous plants, or they will likely be stunted and run to seed instead of heading. The varieties most preferred and apparently most in demand by consumers are the Big Boston and the California Cream Butter.

Preparation of the seed-bed does not materially differ from that of the celery, and the same methods are applicable to a great degree.

Select for this purpose a piece of new, rich land, preferably hammock, for new land is not subject to the root-knot plague which sometimes troubles roots. Clear the soil of all trash, plow or spade it deep and rake very fine and mellow, scattering on hardwood ashes or air-slaked lime two weeks beforehand to neutralize the sourness. Sow in drills as you would turnip seed, very shallow, and rake in. *Firm the soil.* Beat down the earth with the back of the hoe or lay down boards and walk along them. If planted before October, it is well to shade the beds lightly for seven or eight hours during the middle of the day. Sprinkle night and morning with a fine spray, so as not to pack the land.

Watch sharply for ants; they may carry off every seed in forty-eight hours. Apply tobacco dust liberally; if they still persist, give them a tobacco solution, strong; also, as a further preventative, sow grits over the bed. The ants will take this in preference to the seeds, and while they are carrying it away the lettuce will have sprouted and be out of danger.

When the plants are to be transplanted, weed out rigidly and throw away the diseased and feeble plants. A small strawberry plant, by diligent care, can be fed up to be nearly as good as a large one; but not so with a lettuce plant. With a lettuce, it is a head or it is nothing; unless it heads it is valueless.

We repeat, it is not worth while to attempt to grow lettuce commercially for profit unless you have made up your mind to fertilize liberally, unstintedly. Lettuce is largely a luxury of the rich, used for garnishing meats in splendid dinner services, and small leaves, though they may be just as crisp and high-flavored, are not wanted, because they lack in spectacular qualities. A single large, rich, creamy-white leaf or head is worth a dozen smaller ones.

Fully four-fifths of the failures in lettuce culture in

Florida are chargeable to the stinting habit in the application of fertilizer. In some localities hundreds of dollars worth of fertilizer per acre is applied, with large profits as a result. One to two tons of ashes per acre, specially on medium to heavy soils, while preparing the land will be worth many times their cost. It will make the soil loose, friable and sweet.

The truckers of Central Florida begin to plant seed the latter part of August and continue to plant until the first of January. Those who plant prior to the middle of September seldom succeed in securing a satisfactory stand of plants. Lettuce is a cool weather plant; it germinates poorly in hot weather. The few,' however, who do succeed by shading and watering in securing a good stand of these extra early plants, and who bring them on to a handsome and solid maturity, generally reap a rich reward, as this early lettuce commands a fine price. It is a good plan to make repeated sowings, from August 25th to January 1st.

It is an advantage to select a field on the south side of a forest, as a screen against wind. A covering of cotton cloth often pays heavy dividends on the investment. Lettuce, when in heading, is greatly injured by a temperature of 25 degrees; but when not heading it will often withstand 20 degrees without serious injury. The cloth is carried on short stakes, care being exercised to bring the edges well down to prevent the wind from getting under. If the field is not protected by a cloth cover, cut all the heads that will do to ship, when you see that there will be a killing frost, and ship them to market next day.

Following are two good formulas for fertilizing lettuce. Use the one which seems to suit your soil and general condition best; or if preferred, use some other approximating them:

1. Ammonia, 5 to 6 per cent
   Available phosphoric acid, 7 to 9 per cent.
   Potash, 8 to 10 per cent.

2. Ammonia, 6 to 7 per cent.
   Available phosphoric acid, 6 to 7 per cent
   Potash, 6 to 7 per cent.

Apply from 1,500 to 2,000 pounds per acre, and while the crop is growing top-dress with about 150 to 200 pounds of nitrate of soda per acre. It requires about three pounds of seed to sow an acre, or one ounce to every 250 feet of drill.

Baskets for shipping can be obtained from the vegetble crate manufacturers in any section of the State.

OFFICE WORK.

The office work in this Department has for the past two years exceeded all expectations and all precedents, and has taxed the office force to the extreme limit of its capacity to keep up with it. The sudden and widespread interest manifested in the State from abroad, as well as the great increase in the demand for information on all agricultural and kindred subjects by our own people, has added to the volume of work more than one hundred and fifty per cent of correspondence, which in letters written alone amounted to over *nine thousand.* During this time we have printed and distributed seventy thousand Bulletins to inquirers within and from without the State containing information on numerous subjects concerning the State, its products, etc. In addition to this, we have sent out of the State to persons requesting it direct, information concerning the resources, advantages and opportunities for investment or the making of new homes in Florida, twenty thousand packages of printed matter descriptive of every section of the State. To nearly all—more than ninety per cent—of these inquirers a letter was written answering inquiries that could not be answered by printed matter. This represents an increase in the demand for such information of six hundred per cent, and in the correspondence of the Department some three hundred per cent. All of this is in addition to the regular established work of the Department, such as the collection and compiling of the Agricultural Statistics, to which has been added by the new law of 1907, that of collecting the Manufacturing and Industrial Statistics of the State. This work is used as the principal document in immigration matters, as it supplies information in a form to be obtained in no other way, and is in constant demand from all sections of the United States and from nearly every foreign country. An appropriation sufficient to enable this Department to reprint, say 5,000 copies of that portion of this report, suitable for immigration work, for supplying the information continually in demand, setting forth the productions, resources, advantages, opportunities and possibilities of the State for homeseekers, would be a wise expenditure, and cannot be too strongly recommended.

DISTRIBUTION OF MAPS.

The publication and distribution of maps of the State has grown from an official convenience to a public necessity. Not only has the supplying of the public schools and colleges of the State with a correct map of the State become a necessity as well as a public duty on the part of the State, but it forms one of the most effective documents in supplying information to homeseekers or investors from abroad; to send out descriptive matter in the interest of immigration without a map to show location described, is like attempting to sail the seas in a vessel without compass or rudder. In the past two years this Department has distributed over *thirteen thousand* of these maps to every section of the State, the United States, and every civilized country in the world. Our supply is entirely and completely exhausted. We should have for the work in which they are a most important part at least 15,000 copies, less than that number will not be sufficient to supply the demand.

FISH AND OYSTER LAWS.

Notwithstanding the fact that former Legislatures have signally failed to provide protection for the fish and oysters of the salt waters of the State, we again call attention to the necessity for such action if this most valuable asset of the State is to be preserved.

In these times when taxes are growing higher and more burdensome every year, it is but just that every source of revenue should produce its share of the cost of the government. It is not fair to those who bear the increasing weight of taxation, that a comparatively small number of people shall monopolize the fruits of an industry of such vast and valuable proportions "without let or hinderance." But that is precisely what is being done. The State is being despoiled of its property, its resources, that should and could be made to produce a revenue to the State of an hundred thousand dollars per annum. The longer action is delayed, the greater will be the degree of destruction of this property; it is up to the Legislature to protect it, or by delays permit the spoilation to continue till final ruin results. The same argument applies with equal force to the fresh water fishes. We have no remedy to offer, but we suggest that no plan can or will be effective or will be properly enforced unless it is placed under the control of one competent head with full authority to direct and execute the law in a purely businesslike and legal manner without fear, favor or the influence of sentiment. The vast majority of the people of this State demand this protection and they should have it.

METEOROLOGICAL REPORT.

This report is included as usual. It is one of great interest and value to either our own citizens or non-residents. The weather service at all seasons of the year is a great protection to the farmers, vegetable and fruit growers of the State through its system of storm and temperature warnings, as well as to those engaged in ocean commerce. It is also specially worthy of publication for the history that it makes relative to the meteorology of the State. It supplies information of a character that is constantly in increasing demand and which cannot as well be obtained by or distributed to those wanting such information preparatory to making homes or investments in our State unless given publication in our official reports. The report for 1909 follows the Agricultural Statistical report for 1909-10.

IMMIGRATION.

During the past two years there has been a great and increasing interest manifested in Florida by people of other States as well as foreign countries, and it is not unreasonable to say that we believe fully 30,000 people from the sources mentioned, have come into this State and made permanent homes for themselves.

The magnitude of the work connected with this subject has been previously referred to elsewhere, and if it is to be kept up with and given the attention and direction that its importance demands, some means will have to be provided for supplying authentic and reliable descriptive literature embracing every section of this State. The many thousands of inquiries that are pouring into this Department, cannot be intelligently and properly answered without such matter. It is sheerest folly to suppose that the 3,000 copies of our Biennial report, the number to which we are limited, a few county pamphlets, maps and Quarterly Bulletins will suffice to answer the multitude of inquiries referred to, in the manner they should be. And while we do the best possible with what we have and by letter in a supplementary form, it is not possible to do justice to the State or to the parties requesting the information without the proper official printed descriptive matter.

At this particular period when the tide of immigration towards the State is in full swing, and simply needs encouragement to add impetus to the great movement, we believe the Legislature will commit a very grave mistake should it fail to provide for adequate supplies of printed material for use by this Department in immigration work. No more important subject will likely come before the Legislature. It is a vital question in which every good citizen of this State is deeply interested.

CROP STATISTICS FOR 1909-10.

In discussing the acreage and yields of crops for 1909-10 as appear on the following pages, we must bear in mind that several counties are not reported for various reasons or excuses made by some, and no reason at all given by others, even though the Boards of County Commissioners were asked for explanations in every case. In one or two cases the ommission was justifiable under the existing conditions, in the majority of the cases there was no really just reason for not complying with the law. Consequently the reader of this report is asked to bear in mind the fact, that as great as the increase is in all the several schedules of these statistics save one, that it would have been much greater if all the counties had reported. The schedule—Fruit Products—shows a loss of a little over $350,000 in value because the most of the counties not reporting are principally fruit growing counties, and but for their failure to report, there would have been a fair increase.

The acreage planted to field crops reported for 1909-10, is 1,103,499 as compared with 1,085,311 for 1907-8, showing an increase of 18,188 acres planted to standard field crops. These figures would have shown over 50,000 acres more if all the counties had reported. The acreage in vegetable and garden products was 54,047 for 1909-10 as compared with 42,357 for 1907-8, or 11,690 acres, the greatest increase for any one period with one exception in over fifteen years. If all the counties had reported the increase would have been about 2,000 acres additional. The total acreage in cultivation was 1,157,546 acres for 1909-10, as against 1,127,698 acres for 1907-8, or a gain of 29,848 in favor of 1909-10.

VALUE OF FIELD CROPS.

It is noticeable that in this schedule the increased value of the products is much greater in proportion to both acreage and yield than in 1907-8, and also that the yield is greater per acre than in former years. This can readily be accounted for by the fact that within the past two years great improvement has been made in the methods of farm operations, such as better methods of planting and cultivating, better seed by selection, better methods of soil preparation and more and better fertilizing. The value of these crops for 1909-10 was $14,612,840 as against $11,856,340, or an increase of $2,756,500 in favor of 1909-10.

VALUE OF VEGETABLE AND GARDEN PRODUCTS.

In this class of products the effects of better methods of planting, cultivating, etc., is shown in a most convincing manner, as the 11,690 acres increase planted to these crops has alone raised the value of the yield nearly 70 per cent. The value of these crops for 1909-10, was $6,825,912, as against $3,928,657, or an increase of $2,897,255 in favor of 1909-10.

VALUE OF FRUIT PRODUCTS.

Of all the schedules this one shows an apparent loss, while such should not and would not be the case had the counties elsewhere referred to made their report as required by law. The value of the fruit products for 1909-10 was $5,905,727, while the value of the same products for 1907-8 was $6,260,299, showing an apparent loss of $354,572 against the value of the crops for 1909-10.

VALUE OF LIVE STOCK.

In this schedule the greatest gain is shown. There has not only been a large increase in the number of live stock but there has been a still greater proportionate increase in the values. It speaks volumes for the farmer, when he can supply his own meat and bread for the year and have some to spare for market, enabling him thereby to enjoy some of the luxuries of life. That is exactly the conditions that has come about in hundreds of homes in the past two years in Florida where such conditions were unknown before, and the indications are that it is just the beginning.

The value of the live stock of the State for 1909-10 is shown as $23,967,501, as against $20,817,804 for 1907-8, showing a difference of $3,149,697, as the increase in favor of 1909-10.

Value of Poultry and Products.

In this industry we also find an improvement, and a much larger increase than usual. It is well known that a much greater interest in poultry raising has been manifested during the last two years than ever before, and the proof is shown in the remarkable increase of a quarter of a million dollars in value. The value of the products of this industry for 1909-10 was $2,413,940, as against $1,688,433 for 1907-8. We are pleased to note such an improvement, as the poultry industry is one of the most important branches of farm economy.

Value of Dairy Products.

In this schedule we have a much greater increase than usual, and also shows an awakening on the part of the farmer to the importance of this branch of farm work. Like some other things it is strange that it should drag along, unappreciated so long, but better late than never, and from indications as conveyed by the increase of this report, it is coming into the position it deserves as an indispensable and profitable branch of farm work. The value of the dairy products for 1909-10 was $2,851,479, as against $1,728,642 in 1907-8, showing a balance in favor of 1909-10 of $1,122,837.

VALUE OF MISCELLANEOUS PRODUCTS.

The products making up this schedule, while important in themselves separately, do not show much in the aggregate. The value of these products for 1909-10 was $135,435, as against $91,145 for 1907-8.

Coming down to the grand total for 1909-10, we find the sum of $56,712,734, as the value of products for the State, as shown in this report, as against the sum of $46,371,320 for 1907-8, showing a magnificent as well as a wonderful increase of $10,341,414.

The statistical tables showing all of this in detail by counties, follow on succeeding pages.

YEAR 1909-10.

Table No. 8—Total Acreage of Crops.

Field Crops, acres	1,103,499
Vegetable and Garden Products, acres	54,047
Total acreage in cultivation	1,157,546

Table No. 9.—Total Value of Farm Products.

Table No. 1.—Field Crops	$14,612,840
Table No. 2.—Vegetable and Garden Products.	6,825.912
Table No. 3.—Fruit Products	5,905,727
Table No. 4.—Live Stock	23,967,501
Table No. 5.—Poultry and Products	2,413,940
Table No. 6.—Dairy Products	2,851,479
Table No. 7.—Miscellaneous Products	135,435
Total	$56,712,734

Agricultural Statistics

FOR THE YEARS 1909-10.

TABLE NO. 1—FIELD CROPS, 1909-10.

COUNTIES.	COTTON, UPLAND.		
	ACRES.	BALES.	VALUE.
Alachua			$
Baker	98	35	1,825
Bradford			
Brevard			
Calhoun	1,695	440	21,845
*Citrus			
Clay	11	2	97
Columbia	67	22	1,312
Dade			
DeSoto			
Duval			
Escambia	3,154	1,057	66,897
Franklin			
*Gadsden			
Hamilton			
Hernando			
Hillsborough			
Holmes	10.176	3.005	168,519
Jackson	35.251	10,203	644,158
Jefferson	22,022	5,828	254,714
LaFayette	3	1	100
Lake	10	3	210
*Lee			
Leon	14,981	4,063	223,465
Levy			
Liberty	998	372	23,295
Madison	4,131	1,030	62,813
*Manatee			
Marion	33	9	700
*Monroe			
*Nassau			
Orange	27	4	350
*Osceola			
Palm Beach			
*Pasco			
Polk			
*Putnam			
Santa Rosa	5,301	2,017	118,819
St. Johns			
St. Lucie			
Sumter	79	14	1,275
Suwannee			
Taylor			
Volusia			
Wakulla	631	180	9.029
Walton	2.551	1,263	46,210
Washington	2.752	934	56,132
Totals	103,971	30,572	$ 1,701,825

*No Report.

TABLE NO. 1—FIELD CROPS, 1909-10—*Continued.*

COUNTIES.	COTTON, SEA ISLAND.		
	ACRES.	BALES.	VALUE.
Alachua	20.132	4,158	$ 351,389
Baker	4.235	1.203	99.366
Bradford	12,523	32,072	247,616
Brevard			
Calhoun	427	72	6,875
*Citrus			
Clay	151	30	4.225
Columbia	18,827	4,808	284,633
Dade			
DeSoto			
Duval			
Escambia			
Franklin			
*Gadsden			
Hamilton	32,244	7,347	580,212
Hernando			
Hillsborough			
Holmes			
Jackson	435	81	7,122
Jefferson	906	200	14,896
Lafayette	5,661	1,302	123,265
Lake			
Lee			
Leon	26	11	315
Levy	1,805	388	28,046
Liberty			
Madison	14,888	3,013	294,191
*Manatee			
Marion	1,151	303	30,130
*Monroe			
*Nassau			
Orange			
*Osceola			
Palm Beach			
*Pasco			
Polk			
*Putnam			
Santa Rosa			
St. Johns			
St. Lucie			
Sumter	22	4	300
Suwannee	25,616	4,315	431.487
Taylor	1,129	313	29,725
Volusia	35	11	690
Wakulla			
Walton			
Washington	21	6	505
Totals	140,234	59,637	$ 2,534,988

*No Report.

TABLE NO. 1—FIELD CROPS, 1909-10—*Continued.*

COUNTIES.	CORN.		
	ACRES	BUSHELS	VALUE
Alachua	46.472	490.303	$ 324,327
Baker	7,325	86,554	68.441
Bradford	43,620	423.440	326,882
Brevard	72	1,267	1,267
Calhoun	8.613	96,419	96,419
*Citrus	....	....	....
Clay	3,468	24,400	24.400
Columbia	56,158	779,138	517,877
Dade	16	40	40
DeSoto	4,576	55.608	55,533
Duval	1,669	41.817	41.817
Escambia	4,754	67.568	67,040
Franklin	90	2,083	2,825
*Gadsden	....	....	....
Hamilton	39,556	343.481	343.481
Hernando	3,133	37.243	37,251
Hillsborough	5,597	78.255	78.255
Holmes	19,369	198.800	198,800
Jackson	52.490	547.314	547.314
Jefferson	48,383	480.056	273:376
LaFayette	16,618	143.900	115.318
Lake	2,939	38,232	37,913
*Lee	....	....	....
Leon	34.555	366,660	274.995
Levy	12.285	105.639	94.082
Liberty	2.637	162,121	162.121
Madison	45,317	483,804	340,579
*Manatee	....	....	....
Marion	20,328	163,222	121,624
*Monroe	....	....	....
*Nassau	....	....	....
Orange	2,380	42,525	41,358
*Osceola	....	....	....
Palm Beach	16	100	100
*Pasco	....	....	....
Polk	6,743	54,393	54,403
*Putnam	....	....	....
Santa Rosa	8,324	123.733	114,933
St. Johns	4,047	73,922	59,451
St. Lucie	29	427	427
Sumter	8.550	100.039	100.039
Suwannee	39.272	309.955	247,964
Taylor	7,370	61.505	49,685
Volusia	3.221	40.235	32.190
Wakulla	11.483	92.240	46,718
Walton	15.103	121.236	114,612
Washington	29.086	192,132	178,475
Totals	625,664	6,454,099	$ 5.292.332

*No Report.

TABLE NO. 1—FIELD CROPS, 1909-10—*Continued.*

COUNTIES.	OATS.		
	Acres	Bushels	Value
Alachua	1,674	28,825	$ 21,453
Baker	422	4,558	3,222
Bradford	1,013	18,796	11,080
Brevard			
Calhoun	671	7,545	4,675
*Citrus			
Clay	88	925	523
Columbia	2,739	32,040	22,788
Dade			
DeSoto	4	10	6
Duval	62	1,370	1,145
Escambia	359	4,627	3,518
Franklin			
*Gadsden			
Hamilton	286	2,775	2,775
Hernando	111	2,465	2,900
Hillsborough	32	520	480
Holmes	1,042	10,047	6,118
Jackson	2,640	31,748	19,251
Jefferson	1,030	11,292	6,931
LaFayette	186	1,940	1,800
Lake	143	1,755	1,109
*Lee			
Leon	1,761	19,083	16,268
Levy	2,332	29,503	26,217
Liberty	139	2,380	1,412
Madison	2,918	53,189	39,641
*Manatee			
Marion	4,992	60,900	31,575
*Monroe			
*Nassau			
Orange	72	1,570	1,397
*Osceola			
Palm Beach	1	30	20
*Pasco			
Polk	323	2,005	1,845
*Putnam			
Santa Rosa	381	7,635	5,349
St. Johns	24	585	851
St. Lucie	1	20	20
Sumter	732	8,590	8,590
Suwanne	76	860	732
Taylor	236	4,650	2,760
Volusia			
Wakulla	299	7,100	6,220
Walton	326	2,658	1,690
Washington	339	4,211	3,109
Totals	27,454	366,207	$ 256,970

*No Reports.

TABLE NO. 1—FIELD CROPS, 1909-10—*Continued.*

COUNTIES.	SWEET POTATOES.		
	ACRES	BUSHELS	VALUE
Alachua	692	114,548	$ 37,217
Baker	238	64,271	31,723
Bradford	501	70,038	29,011
Brevard	60	7,977	7,143
Calhoun	313	27,904	13,972
*Citrus	....	....	....
Clay	317	22,509	10,875
Columbia	651	57,831	35,090
Dade	24	3,290	3.290
DeSoto	567	57,379	29,028
Duval	936	269,710	139,047
Escambia	634	54,400	35,607
Franklin	85	8,450	8,450
*Gadsden	....	....	....
Hamilton	1,190	57,544	57,544
Hernando	196	34,140	32.587
Hillsborough	553	68,883	61,595
Holmes	745	73,850	36,939
Jackson	853	79,964	41,158
Jefferson	999	92,253	49,779
LaFayette	141	19,005	9,330
Lake	421	34,431	26,008
*Lee	....	....	....
Leon	967	86,738	42,969
Levy	306	32,135	20,672
Liberty	300	28,389	15,045
Madison	625	45,540	22,059
*Manatee	....	....	....
Marion	616	61,300	51,680
*Monroe	....	....	....
*Nassau	....	....	....
Orange	538	63,656	54,266
*Osceola	....	....	....
Palm Beach	20	1,872	2,551
*Pasco	....	....	....
Polk	758	65,888	46,717
*Putnam	....	....	....
Santa Rosa	581	63.393	45,191
St. Johns	666	83.000	41,625
St. Lucie	46	3.213	3.213
Sumter	372	37.492	29.923
Suwannee	511	80.517	80.577
Taylor	82	17.775	16.203
Volusia	433	46.280	23.140
Wakulla	195	25.021	13.518
Walton	307	46.615	23.806
Washington	634	53.102	31.515
Totals	18.202	2.060,303	$ 1.259.918

*No Report.

TABLE NO. 1—FIELD CROPS, 1909-10—*Continued.*

COUNTIES.	RICE.		
	ACRES	BUSHELS	VALUE
Alachua			$
Baker	3	76	76
Bradford	13	263	263
Brevard			
Calhoun	17	314	314
*Citrus			
Clay	5	70	70
Columbia	37	611	701
Dade			
DeSoto	68	1,422	1,382
Duval	1	50	50
Escambia	14	558	464
Franklin			
*Gadsden			
Hamilton	9	127	127
Hernando	18	545	1,190
Hillsborough	18	348	555
Holmes			
Jackson	3	75	90
Jefferson	1	20	15
LaFayette	17	342	210
Lake	1	55	68
*Lee			
Leon	2	62	43
Levy	1	10	20
Liberty	5	166	376
Madison			
*Manatee			
Marion	96	2,690	3,020
*Monroe			
*Nassau			
Orange	4	320	440
*Osceola			
Palm Beach	1	10	25
*Pasco			
Polk	37	1,250	2,300
*Putnam			
Santa Rosa	31	762	701
St. Johns	7	1,776	53
St. Lucie			
Sumter	2	80	50
Suwannee	2	20	20
Taylor			
Volusia	1	20	30
Wakulla	1	45	25
Walton	20	314	314
Washington	35	864	882
Totals	470	13.265	$ 13,874

*No Report.

TABLE NO. 1—FIELD CROPS, 1909-10—*Continued.*

COUNTIES.	SUGARCANE.				
	Acres.	Bbls.	Value.	Sugar.	Value.
		Syrup.	Dollars.	(Lbs.)	Dollars
Alachua	117	2,103	$ 25.515	600	$ 54
Baker	116	1,032	11,594	16,690	987
Bradford	334	2,595	27,052	1,400	70
Brevard	11	88	1,388		
Calhoun	209	1,780	17,800		
*Citrus					
Clay	93	681	10,491	950	200
Columbia	323	3,730	30,877	3,320	242
Dade					
DeSoto	262	1,570	24.200	2,165	115
Duval	269	4,249	73,265		
Escambia	149	1,023	12.833		
Franklin	67	524	7,547		
*Gadsden					
Hamilton	374	2,955	29,550		
Hernando	74	324	6.865	200	10
Hillsborough	283	2.629	39,145	1,100	110
Holmes	246	2,345	29.598		
Jackson	750	7,339	72,179		
Jefferson	406	2,907	28.576	30	3
Lafayette	37	322	3,961		
Lake	46	344	5,292		
*Lee					
Leon	543	2,787	27,734		
Levy	208	1,558	21,367	1,000	55
Liberty	259	3.438	28,545		
Madison	322	2,719	30,366	600	30
*Manatee					
Marion	60	376	5,580		
*Monroe					
*Nassau					
Orange	22	26	1,610		
*Osceola					
Palm Beach	3	8	125		
*Pasco					
Polk	274	1,071	25,531	200	16
*Putnam					
Santa Rosa	236	1,280	31,097		
St. Johns	137	820	19.830	1,080	50
St. Lucie	17	55	1,156		
Sumter	167	927	19.196		
Suwannee	324	3,430	51,495		
Taylor	69	414	4,154		
Volusia	66	533	7.995		
Wakulla	171	2.064	16,039		
Walton	187	1,080	15.747		
Washington	289	1,789	26.935		
Totals	7,522	62,915	$ 792,230	29,335	$ 1,942

*No Report.

TABLE NO. 1—FIELD CROPS, 1909-10—*Continued.*

COUNTIES.	FIELD PEAS.		
	ACRES	BUSHELS	VALUE
Alachua	40	330	$ 624
Baker	305	2,500	2,530
Bradford	28	445	473
Brevard	5	15	30
Calhoun	171	735	2,205
*Citrus	....	....	....
Clay	43	770	540
Columbia	451	2,693	8,202
Dade	....	....	....
DeSoto	320	2,112	4,707
Duval	57	1,374	1,691
Escambia	177	1,156	2,449
Franklin	58	1,380	1,089
*Gadsden	....	....	....
Hamilton	159	1,600	2,950
Hernando	9	115	265
Hillsborough	93	1,279	1,805
Holmes	606	5,078	11,356
Jackson	543	3,260	3,436
Jefferson	198	876	2,137
LaFayette	112	1,250	1,703
Lake	240	1,204	3,230
*Lee	....	....	....
Leon	408	2,234	3,461
Levy	281	1,585	3,588
Liberty	28	260	395
Madison	39	3,780	8,796
*Manatee	....	....	....
Marion	104	1,950	5,450
*Monroe	....	....	....
*Nassau	....	....	....
Orange	110	1,120	2,040
*Osceola	....	....	....
Palm Beach	7	50	90
*Pasco	....	....	....
Polk	135	1,384	2,704
*Putnam	....	....	....
Santa Rosa	688	6,473	13,266
St. Johns	6	75	150
St. Lucie	24	288	638
Sumter	70	770	1,223
Suwannee	65	625	1.250
Taylor	235	3.980	3.750
Volusia	216	1,415	2.220
Wakulla	54	796	1,660
Walton	223	1.348	1.348
Washington	145	1.205	1.663
Totals	6.447	58.110	$ 105.114

*No Report

TABLE NO. 1—FIELD CROPS, 1909-10—*Continued.*

COUNTIES.	FIELD PEA HAY.		
	ACRES.	TONS.	VALUE.
Alachua	74	82	$ 2,490
Baker	1	2	40
Bradford	27	84	890
Brevard	2	3	50
Calhoun	....	....	....
*Citrus	....	....	....
Clay	1	1	19
Columbia	363	425	5,753
Dade	37	84	1,160
DeSoto	169	243	2,655
Duval	80	142	2,600
Escambia	270	439	4,643
Franklin	....	....	....
*Gadsden	....	....	....
Hamilton	46	49	730
Hernando	6	30	450
Hillsborough	42	68	950
Holmes	95	140	1,810
Jackson	343	173	2,674
Jefferson	40	34	510
Lafayette	....	....	....
Lake	1,056	966	16,249
*Lee	....	....	....
Leon	1,186	987	16,687
Levy	112	113	1,685
Liberty	65	79	1,015
Madison	810	547	6,807
*Manatee	....	....	....
Marion	1,280	1,366	25,815
*Monroe	....	....	....
*Nassau	....	....	....
Orange	60	74	1,235
*Osceola	....	....	....
Palm Beach	11	37	640
*Pasco	....	....	....
Polk	22	106	1,530
*Putnam	....	....	....
Santa Rosa	164	275	5,460
St. Johns	....	....	....
St. Lucie	....	....	....
Sumter	80	101	1,842
Suwannee	10	20	400
Taylor	....	....	....
Volusia	154	148	2,220
Wakulla	6	12	240
Walton	54	25	506
Washington	27	33	627
Totals	6,693	6,888	$ 110,382

*No Report.

TABLE NO. 1—FIELD CROPS, 1909-10—*Continued.*

COUNTIES.	HAY, NATIVE GRASSES.		
	ACRES.	TONS.	VALUE.
Alachua	980	1,025	$ 15,785
Baker	21	31	590
Bradford	106	163	2,377
Brevard	2	2	85
Calhoun	768	481	8,094
*Citrus	....	....	....
Clay	88	139	2.841
Columbia	226	130	2,579
Dade	....	....	....
DeSoto	1,114	1,138	20.224
Duval	271	394	7.780
Escambia	875	1,089	19,271
Franklin	....	....	....
*Gadsden	....	....	....
Hamilton	32	37	565
Hernando	106	329	2.135
Hillsborough	403	764	14.320
Holmes	1,072	1,174	19.322
Jackson	3,435	1,862	26.262
Jefferson	559	786	11,024
LaFayette	16	11	200
Lake	221	202	3,302
*Lee	....	....	....
Leon	940	772	10,769
Levy	382	470	7,134
Liberty	10	10	200
Madison	925	556	7,841
*Manatee	....	....	....
Marion	1,587	1,587	25,700
*Monroe	....	....	....
*Nassau	....	....	....
Orange	1,776	2,588	38,770
*Osceola	....	....	....
Palm Beach	19	32	620
*Pasco	....	....	....
Polk	683	755	9,400
*Putnam	....	....	....
Santa Rosa	312	320	6,543
St. Johns	1,336	2,672	40.080
St. Lucie	47	45	1.025
Sumter	967	1,451	21,461
Suwannee	....	....	....
Taylor	....	....	....
Volusia	484	445	6,175
Wakulla	55	33	560
Walton	408	299	4.939
Washington	440	407	6,897
Totals	20,666	22,199	$ 374,520

*No Report.

TABLE NO. 1—FIELD CROPS, 1909-10—*Continued.*

COUNTIES.	MILLET.		
	ACRES.	TONS.	VALUE.
Alachua	24	30	$ 430
Baker	....	....	....
Bradford	13	40	450
Brevard	....	....	....
Calhoun	5	5	100
*Citrus	....	....	....
Clay	1	2	30
Columbia	....	....	....
Dade	5	20	200
DeSoto	19	18	330
Duval	2	4	60
Escambia	29	26	445
Franklin	....	....	....
*Gadsden	....	....	....
Hamilton	1	2	40
Hernando	....	....	....
Hillsborough	7	14	160
Holmes	2	3	56
Jackson	60	42	820
Jefferson	14	57	640
Lafayette	....	....	....
Lake	....	....	....
*Lee	....	....	....
Leon	9	88	800
Levy	7	14	140
Liberty	....	....	....
Madison	....	....	....
*Manatee	....	....	....
Marion	....	....	....
*Monroe	....	....	....
*Nassau	....	....	....
Orange	24	42	450
*Osceola	....	....	....
Palm Beach	....	....	....
*Pasco	....	....	....
Polk	32	98	1,050
*Putnam	....	....	....
Santa Rosa	51	140	1,433
St. Johns	....	....	....
St. Lucie	....	....	....
Sumter	3	13	104
Suwannee	....	....	....
Taylor	....	....	....
Volusia	1	.5	75
Wakulla	1	1	15
Walton	9	9	166
Washington	1	1	15
Totals	320	674	$ 8,009

*No Report.

TABLE NO. 1—FIELD CROPS, 1909-10—*Continued.*

COUNTIES.	PEANUTS.		
	ACRES	BUSHELS	VALUE
Alachua	10,188	142,389	$ 107,061
Baker	4,758	51,565	51,565
Bradford	10,110	173,575	112,338
Brevard	....	....	....
Calhoun	2,249	45,550	45,550
*Citrus	....	....	....
Clay	4	48	86
Columbia	10,839	137,395	144,758
Dade	....	....	....
DeSoto	182	1,505	2,167
Duval	1	20	30
Escambia	205	3,641	4,054
Franklin	....	....	....
*Gadsden	....	....	....
Hamilton	8,652	147,728	147,728
Hernando	459	11,241	16,427
Hillsborough	108	1,940	2,485
Holmes	6.110	110,231	170,943
Jackson	12,646	156,663	156,663
Jefferson	3,517	55,692	54.823
Lafayette	4,337	57,505	57,505
Lake	10	580	820
*Lee	....	....	....
Leon	1,687	21,464	20,706
Levy	5,209	162,639	169,015
Liberty	631	11,365	11,445
Madison	6,645	131,083	164,186
*Manatee	....	....	....
Marion	1,189	34,990	35,040
*Monroe	....	....	....
*Nassau	....	....	....
Orange	4	89	180
*Osceola	....	....	....
Palm Beach	2	100	50
*Pasco	....	....	....
Polk	40	580	930
*Putnam	....	....	....
Santa Rosa	688	11,640	17,133
St. Johns	1	15	22
St. Lucie	....	....	....
Sumter	1,954	38.171	37.787
Suwannee	12,457	124.570	124 570
Taylor	1 586	32,890	34,255
Volusia	13	160	255
Wakulla	1,276	44.587	82,482
Walton	1,138	11,607	11,007
Washington	3,570	49,062	32,657
Totals	112,465	1,771,680	$ 1,816,758

*No Report.

TABLE NO. 1—FIELD CROPS, 1909-10—*Continued.*

COUNTIES.	TOBACCO, OPEN FIELD CULTURE.		
	ACRES.	POUNDS.	VALUE.
Alachua			$
Baker			
Bradford			
Brevard			
Calhoun			
*Citrus			
Clay			
Columbia			
Dade			
DeSoto			
Duval			
Escambia			
Franklin			
*Gadsden			
Hamilton			
Hernando			
Hillsborough			
Holmes			
Jackson	5	50	25
Jefferson	4	400	300
LaFayette			
Lake			
*Lee			
Leon	6	30,500	12,200
Levy			
Liberty	1	450	45
Madison			
*Manatee			
Marion			
*Monroe			
*Nassau			
Orange			
*Osceola			
Palm Beach			
*Pasco			
Polk			
*Putnam			
Santa Rosa			
St. Johns			
St. Lucie			
Sumter			
Suwannee			
Taylor			
Volusia			
Wakulla			
Walton			
Washington	6	2,190	1,028
Totals	22	33,590	13,598

*No Reports.

TABLE NO. 1—FIELD CROPS, 1909-10—*Continued.*

COUNTIES.	TOBACCO. Grown Under Shade.		
	ACRES.	POUNDS.	VALU
Alachua			$
Baker			
Bradford			
Brevard			
Calhoun			
*Citrus			
Clay			
Columbia			
Dade			
DeSoto			
Duval			
Escambia			
Franklin			
*Gadsden			
Hamilton			
Hernando	10	14,462	
Hillsborough			
Holmes			
Jackson	6	5,000	1
Jefferson	197	610	
Lafayette			
Lake			
*Lee			
Leon	83	75,438	37
Levy			
Liberty			
Madison	48	40,000	1
*Manatee			
Marion			
*Monroe			
*Nassau			
Orange			
*Osceola			
Palm Beach			
*Pasco			
Polk			
*Putnam			
Santa Rosa			
St. Johns			
St. Lucie			
Sumter			
Suwannee			
Taylor			
Volusia			
Wakulla			
Walton			
Washington			
Totals	344	135,510	$ 5

*No Report.

TABLE NO. 1—FIELD CROPS, 1909-10—*Continued.*

COUNTIES.	VELVET BEANS.		
	ACRES	BUSHELS	VALUE
Alachua	2,740	42,355	$ 62,254
Baker	....	....	....
Bradford	563	7,290	5,977
Brevard	....	....	....
Calhoun	329	3,150	6,300
*Citrus	....	....	....
Clay	65	607	1,656
Columbia	765	11,782	24,110
Dade	....	....	....
DeSoto	157	1,250	1,965
Duval	26	129	305
Escambia	256	1,940	4,275
Franklin	....	....	....
*Gadsden	....	....	....
Hamilton	4,781	53,300	105.560
Hernando	641	11,455	11,515
Hillsborough	307	3.365	4.205
Holmes	6,383	64.271	139.626
Jackson	1,564	13,845	13,907
Jefferson	67	820	940
LaFayette	375	4,100	4,100
Lake	6	6	120
*Lee	....	....	....
Leon	213	2.587	3.566
Levy	512	7,380	20,975
Liberty	61	918	843
Madison	392	4,017	18,699
*Manatee	....	....	....
Marion	572	10,730	21,210
*Monroe	....	....	....
*Nassau	....	....	....
Orange	175	3,151	5,375
*Osceola	....	....	....
Palm Beach	7	250	650
*Pasco	....	....	....
Polk	352	3,575	9.447
*Putnam	....	....	....
Santa Rosa	2,441	10,722	35,887
St. Johns	10	150	200
St. Lucie	11	236	288
Sumter	562	8,270	8,270
Suwannee	130	1.400	3.000
Taylor	195	3,540	2,740
Volusia	142	885	1,720
Wakulla	1.350	33.577	54.045
Walton	2.712	24.009	24.079
Washington	2.699	33.591	28.194
Totals	31,561	368,653	$ 626,903

*No Report.

TABLE NO. 1—FIELD CROPS, 1909-10—*Continued.*

COUNTIES.	VELVET BEAN HAY.		
	ACRES.	TONS.	VALUE.
Alachua			$
Baker			
Bradford			
Brevard			
Calhoun	2	1	20
*Citrus			
Clay			
Columbia	41	72	1,440
Dade	28	55	810
DeSoto	15	127	1,275
Duval			
Escambia	181	190	3,074
Franklin			
*Gadsden			
Hamilton			
Hernando			
Hillsborough	17	38	381
Holmes	64	144	2,318
Jackson			
Jefferson			
Lafayette			
Lake			
*Lee			
Leon			
Levy			
Liberty	6	12	240
Madison			
*Manatee			
Marion			
*Monroe			
*Nassau			
Orange	73	533	4,305
*Osceola			
Palm Beach			
*Pasco			
Polk	44	630	6,900
*Putnam			
Santa Rosa	162	192	3,785
St. Johns			
St. Lucie			
Sumter	43	200	760
Suwannee	15	25	500
Taylor			
Volusia	251	249	3,735
Wakulla	5	10	200
Walton	35	17	306
Washington	3	4	45
Totals	985	2,499	$ 30,094

*No Report.

TABLE NO. 1—FIELD CROPS, 1909-10—*Continued.*

COUNTIES.	RYE.		
	Acres	Bushels	Value
Alachua			$
Baker			
Bradford			
Brevard			
Calhoun			
*Citrus			
Clay			
Columbia			
Dade			
DeSoto			
Duval			
Escambia			
Franklin			
*Gadsden			
Hamilton			
Hernando			
Hillsborough			
Holmes			
Jackson	3	30	30
Jefferson			
LaFayette			
Lake			
*Lee			
Leon	95	418	1,600
Levy	15	60	150
Liberty			
Madison	275	1,936	7,035
*Manatee			
Marion			
*Monroe			
*Nassau			
Orange			
*Osceola			
Palm Beach			
*Pasco			
Polk			
*Putnam			
Santa Rosa	9	10	60
St. Johns			
St. Lucie			
Sumter			
Suwannee	1	10	10
Taylor			
Volusia			
Wakulla			
Walton			
Washington	1	5	10
Totals	399	2,469	$ 8,895

*No Report.

TABLE NO. 1—FIELD CROPS, 1909-10—*Continued.*

COUNTIES.	CASSAVA.		
	ACRES.	TONS.	VA
Alachua	1	6	$
Baker			
Bradford			
Brevard			
Calhoun			
*Citrus			
Clay			
Columbia			
Dade			
DeSoto	1	2	
Duval	1	1	
Escambia			
Franklin			
*Gadsden			
Hamilton			
Hernando			
Hillsborough	16	19	
Holmes			
Jackson	4	13	
Jefferson			
Lafayette			
Lake	13	119	
*Lee			
Leon	1	1	
Levy	1	1	
Liberty			
Madison			
*Manatee			
Marion			
*Monroe			
*Nassau			
Orange	23	111	
*Osceola			
Palm Beach			
*Pasco			
Polk	4	23	
*Putnam			
Santa Rosa			
St. Johns	1	13	
St. Lucie			
Sumter	1	5	
Suwannee			
Taylor			
Volusia	4	20	
Wakulla			
Walton			
Washington	2	2	
Totals	73	336	$

*No Report.

TABLE NO. 1—FIELD CROPS, 1909-10—*Continued.*

COUNTIES.	ALFALFA (Lucerne.)		
	ACRES.	TONS.	VALUE.
Alachua			$
Baker			
Bradford			
Brevard			
Calhoun			
*Citrus			
Clay			
Columbia			
Dade			
DeSoto			
Duval			
Escambia			
Franklin			
*Gadsden			
Hamilton			
Hernando			
Hillsborough	4	2	40
Holmes			
Jackson			
Jefferson			
Lafayette			
Lake			
*Lee			
Leon	1	2	40
Levy			
Liberty			
Madison			
*Manatee			
Marion			
*Monroe			
*Nassau			
Orange			
*Osceola			
Palm Beach			
*Pasco			
Polk	1	4	100
*Putnam			
Santa Rosa	1	1	20
St. Johns			
St. Lucie			
Sumter			
Suwannee			
Taylor			
Volusia			
Wakulla			
Walton			
Washington			
Totals	7	9	$ 200

*No Report.

TABLE NO. 2.—VEGETABLES AND GARDEN PRODUCTS.

1909-10.

COUNTIES.	ONIONS.		
	ACRES.	CRATES.	VALUE.
Alachua	3	140	$ 280
Baker			
Bradford			
Brevard	3	500	725
Calhoun			
*Citrus			
Clay	1	53	130
Columbia			
Dade	8	250	450
DeSoto	7	1,892	2,723
Duval	5	138	232
Escambia	9	1,033	1,137
Franklin	34	1,252	1,920
*Gadsden			
Hamilton			
Hernando	3	515	520
Hillsborough	6	2 655	2,690
Holmes	7	1,696	3,392
Jackson			
Jefferson	1	60	80
Lafayette			
Lake	5	825	822
*Lee			
Leon	1	40	40
Levy	1	275	410
Liberty			
Madison			
*Manatee			
Marion	12	2.400	2,000
*Monroe			
*Nassau			
Orange	6	1,180	1,460
*Osceola			
Palm Beach	3	1,140	1,225
*Pasco			
Polk	6	245	690
*Putnam			
Santa Rosa	2	232	246
St. Johns	1	50	100
St. Lucie	3	378	576
Sumter	2	266	266
Suwannee			
Taylor			
Volusia	6	940	1,390
Wakulla			
Walton			
Washington			
Totals	135	18,155	$ 23,504

*No Report.

TABLE NO. 2.—VEGETABLES AND GARDEN PRODUCTS.
1909-10.—*Continued.*

COUNTIES.	LETTUCE.		
	ACRES.	CRATES.	VALUE.
Alachua	657	125,920	$ 178,115
Baker			
Bradford			
Brevard	1	180	140
Calhoun			
*Citrus			
Clay	1	20	25
Columbia			
Dade	2	350	400
DeSoto	1	150	211
Duval	1	150	200
Escambia	4	288	466
Franklin	4	425	170
*Gadsden			
Hamilton			
Hernando			
Hillsborough	9	3,450	3,475
Holmes	1	137	218
Jackson			
Jefferson			
LaFayette			
Lake	24	4,463	4,174
*Lee			
Leon	1	50	50
Levy	2	606	528
Liberty			
Madison			
*Manatee			
Marion	400	35,650	31,720
*Monroe			
*Nassau			
Orange	412	191,195	148,080
*Osceola			
Palm Beach	1	34	67
*Pasco			
Polk	1	40	50
*Putnam			
Santa Rosa			
St. Johns	4	900	1,800
St. Lucie	1	58	66
Sumter	51	25,635	23,635
Suwannee			
Taylor			
Volusia	30	4,280	4,260
Wakulla			
Walton			
Washington			
Totals	1,608	303,981	$ 397.850

*No Report.

TABLE NO. 2.—VEGETABLES AND GARDEN PRODUCTS.

1909-10.—*Continued.*

COUNTIES.	CELERY.		
	Acres.	Crates.	Value.
Alachua			$
Baker			
Bradford			
Brevard	1	214	225
Calhoun			
*Citrus			
Clay			
Columbia			
Dade	1	250	250
DeSoto	1	75	75
Duval			
Escambia			
Franklin			
*Gadsden			
Hamilton			
Hernando			
Hillsborough	74	47,200	21,600
Holmes	2	452	914
Jackson			
Jefferson			
Lafayette			
Lake	1	350	260
*Lee			
Leon			
Levy			
Liberty			
Madison			
*Manatee			
Marion			
*Monroe			
*Nassau			
Orange	249	269,145	232,255
*Osceola			
Palm Beach	1	100	100
*Pasco			
Polk	7	1,920	1,860
*Putnam			
Santa Rosa			
St. Johns	2	1,600	3.200
St. Lucie			
Sumter			
Suwannee			
Taylor			
Volusia	27	6.120	5,325
Wakulla			
Walton			
Washington			
Totals	366	327,426	$ 266,064

*No Report.

TABLE NO. 2.—VEGETABLES AND GARDEN PRODUCTS.

1909-10.—*Continued.*

COUNTIES.	PEPPER.		
	ACRES.	CRATES.	VALUE.
Alachua	1	50	$ 25
Baker			
Bradford			
Brevard	5	1,700	1,750
Calhoun			
*Citrus			
Clay	1	200	150
Columbia			
Dade	234	54,088	65,277
DeSoto	5	750	750
Duval	1	95	133
Escambia	4	654	831
Franklin			
*Gadsden			
Hamilton			
Hernando	7	790	1,000
Hillsborough	2	1,200	1,110
Holmes	1	48	91
Jackson			
Jefferson			
Lafayette			
Lake	1	166	200
*Lee			
Leon			
Levy	3	870	670
Liberty			
Madison			
*Manatee			
Marion	30	4,500	7,500
*Monroe			
*Nassau			
Orange	5	900	550
*Osceola			
Palm Beach	92	41,781	49,313
*Pasco			
Polk	4	500	550
*Putnam			
Santa Rosa			
St. Johns			
St. Lucie	6	940	860
Sumter	10	1,850	1,870
Suwannee			
Taylor			
Volusia	5	605	625
Wakulla	2	200	200
Walton			
Washington			
Totals	419	111.887	$ 133,455

*No Report.

TABLE NO. 2.—VEGETABLES AND GARDEN PRODUC
1909-10.—*Continued.*

COUNTIES.	IRISH POTATOES.	
	Acres	Bushels
Alachua	14	987
Baker	....	....
Bradford	33	300
Brevard	18	1,800
Calhoun	4	169
*Citrus	....	....
Clay	137	9,760
Columbia	4	190
Dade	243	32,780
DeSoto	108	5,603
Duval	119	10,645
Escambia	79	6,166
Franklin	60	10,842
*Gadsden	....	....
Hamilton	....	....
Hernando	1	195
Hillsborough	324	30,376
Holmes	48	7,200
Jackson	....	....
Jefferson	....	....
LaFayette	2	135
Lake	79	4,559
*Lee	....	....
Leon	3	315
Levy	7	414
Liberty	....	....
Madison	....	....
*Manatee	....	....
Marion	190	2,500
*Monroe	....	....
*Nassau	....	....
Orange	282	29,371
*Osceola	....	....
Palm Beach	57	4,680
*Pasco	....	....
Polk	68	3,731
*Putnam	....	....
Santa Rosa	20	2,320
St. Johns	5,509	605,990
St. Lucie	42	2,431
Sumter	19	2,171
Suwannee	2	135
Taylor	....	....
Volusia	165	18,790
Wakulla	1	20
Walton	2	95
Washington	2	75
Totals	7,642	794,745

*No Report.

TABLE NO. 2.—VEGETABLES AND GARDEN PRODUCTS.
1909-10.—*Continued.*

COUNTIES.	CABBAGE.		
	Acres.	Crates.	Value.
Alachua	678	53,499	$ 145,461
Baker			
Bradford	4	200	200
Brevard	1	343	355
Calhoun	4	178	325
*Citrus			
Clay	3	350	393
Columbia	2	86	97
Dade	12	1,655	2,040
DeSoto	20	2,116	2,222
Duval	98	16,660	16,735
Escambia	56	4,154	5,312
Franklin	38	9,945	24,411
*Gadsden			
Hamilton			
Hernando	10	780	710
Hillsborough	49	6,710	6,870
Holmes	48	4,961	5,883
Jackson			
Jefferson	1	75	75
LaFayette			
Lake	208	25,757	34,444
*Lee			
Leon	25	2,600	2,510
Levy	44	4,795	5,056
Liberty			
Madison			
*Manatee			
Marion	376	35,200	35,100
*Monroe			
*Nassau			
Orange	44	4,555	4,415
*Osceola			
Palm Beach	7	819	963
*Pasco			
Polk	25	1,423	1,966
*Putnam			
Santa Rosa	9	1,076	1,701
St. Johns	6	370	740
St. Lucie	9	531	859
Sumter	1,718	96,905	114,020
Suwannee	1	20	30
Taylor			
Volusia	16	1,780	1,815
Wakulla			
Walton			
Washington			
Totals	3,512	277,543	$ 414,708

*No Report.

TABLE NO. 1—FIELD CROPS, 1909-10—*Continued.*

COUNTIES.	VELVET BEAN HAY.		
	ACRES.	TONS.	VALUE.
Alachua			$
Baker			
Bradford			
Brevard			
Calhoun	2	1	20
*Citrus			
Clay			
Columbia	41	72	1,440
Dade	28	55	810
DeSoto	15	127	1,275
Duval			
Escambia	181	190	3,074
Franklin			
*Gadsden			
Hamilton			
Hernando			
Hillsborough	17	38	381
Holmes	64	144	2,318
Jackson			
Jefferson			
Lafayette			
Lake			
*Lee			
Leon			
Levy			
Liberty	6	12	240
Madison			
*Manatee			
Marion			
*Monroe			
*Nassau			
Orange	73	533	4,305
*Osceola			
Palm Beach			
*Pasco			
Polk	44	630	6,900
*Putnam			
Santa Rosa	162	192	3,785
St. Johns			
St. Lucie			
Sumter	43	200	760
Suwannee	15	25	500
Taylor			
Volusia	251	249	3,735
Wakulla	5	10	200
Walton	35	17	306
Washington	3	4	45
Totals	985	2,499	$ 30,094

*No Report.

TABLE NO. 1—FIELD CROPS, 1909-10—*Continued.*

COUNTIES.	RYE.		
	ACRES	BUSHELS	VALUE
Alachua			$
Baker			
Bradford			
Brevard			
Calhoun			
*Citrus			
Clay			
Columbia			
Dade			
DeSoto			
Duval			
Escambia			
Franklin			
*Gadsden			
Hamilton			
Hernando			
Hillsborough			
Holmes			
Jackson	3	30	30
Jefferson			
LaFayette			
Lake			
*Lee			
Leon	95	418	1,600
Levy	15	60	150
Liberty			
Madison	275	1,936	7,035
*Manatee			
Marion			
*Monroe			
*Nassau			
Orange			
*Osceola			
Palm Beach			
*Pasco			
Polk			
*Putnam			
Santa Rosa	9	10	60
St. Johns			
St. Lucie			
Sumter			
Suwannee	1	10	10
Taylor			
Volusia			
Wakulla			
Walton			
Washington	1	5	10
Totals	399	2,469	$ 8,895

*No Report.

TABLE NO. 2.—VEGETABLES AND GARDEN PRODUCTS. 1909-10.—*Continued.*

COUNTIES.	EGG PLANTS.		
	ACRES.	CRATES.	VALUE.
Alachua	59	14,455	$ 4,085
Baker	....	....	....
Bradford	....	....	....
Brevard	3	400	555
Calhoun	....	....	....
*Citrus	....	....	....
Clay	1	40	60
Columbia	....	....	....
Dade	129	29,308	46,298
DeSoto	10	540	540
Duval	....	....	....
Escambia	2	165	190
Franklin	....	....	....
*Gadsden	....	....	....
Hamilton	....	....	....
Hernando	9	600	600
Hillsborough	15	1,780	2,065
Holmes	10	395	637
Jackson	....	....	....
Jefferson	....	....	....
LaFayette	....	....	....
Lake	27	2,258	2,089
*Lee	....	....	....
Leon	....	....	....
Levy	1	150	150
Liberty	....	....	....
Madison	....	....	....
*Manatee	....	....	....
Marion	12	2,000	2,000
*Monroe	....	....	....
*Nassau	....	....	....
Orange	10	1,740	1.505
*Osceola	....	....	....
Palm Beach	17	6,377	6.605
*Pasco	....	....	....
Polk	29	1,510	1,750
*Putnam	....	....	....
Santa Rosa	1	50	53
St. Johns	....	....	....
St. Lucie	3	128	141
Sumter	3	370	370
Suwannee	....	....	....
Taylor	....	....	....
Volusia	7	955	1.100
Wakulla	2	200	200
Walton	....	....	....
Washington	....	....	....
Totals	350	68.421	$ 70,991

*No Report.

TABLE NO. 2.—VEGETABLES AND GARDEN PRODUCTS. 1909-10.—*Continued.*

COUNTIES.	CUCUMBERS.		
	ACRES.	CRATES.	VALUE.
Alachua	206	86,363	$ 65,800
Baker	....	....	....
Bradford	6	575	750
Brevard	1	110	140
Calhoun	....	....	....
*Citrus	....	....	....
Clay	....	....	....
Columbia	5	172	345
Dade	50	11,140	21,000
DeSoto	129	16,725	18,178
Duval	1	110	95
Escambia	6	1,500	856
Franklin	6	737	780
*Gadsden	....	....	....
Hamilton	....	....	....
Hernando	1	200	200
Hillsborough	77	16,725	16,660
Holmes	38	3,448	3,448
Jackson	....	....	....
Jefferson	10	300	320
Lafayette	....	....	....
Lake	91	23,382	17,247
*Lee	....	....	....
Leon	....	....	....
Levy	491	235,890	131,729
Liberty	....	....	....
Madison	....	....	....
*Manatee	....	....	....
Marion	49	9,310	9,310
*Monroe	....	....	....
*Nassau	....	....	....
Orange	131	45,995	72,350
*Osceola	....	....	....
Palm Beach	24	3,811	5,158
*Pasco	....	....	....
Polk	8	725	530
*Putnam	....	....	....
Santa Rosa	1	108	106
St. Johns	48	5,000	8 300
St. Lucie	8	1,134	1,340
Sumter	664	122,717	126,272
Suwannee	....	....	....
Taylor	....	....	....
Volusia	7	1,445	1,360
Wakulla	1	100	200
Walton	....	....	....
Washington	....	....	....
Totals	2,059	587,722	502,474

*No Report.

TABLE NO. 2.—VEGETABLES AND GARDEN PRODUCTS.
1909-10.—*Continued.*

COUNTIES.	WATERMELONS.		
	ACRES.	CAR L'DS.	VALUE.
Alachua	532	227	$ 36,202
Baker	....	....	....
Bradford	48	24	3,020
Brevard	3	2	325
Calhoun	14	9	850
*Citrus	....	....	....
Clay	....	....	....
Columbia	287	271	26,818
Dade	32	14	2,300
DeSoto	305	857	12,651
Duval	69	68	5,305
Escambia	91	72	6,017
Franklin	42	83	6,231
*Gadsden	....	....	....
Hamilton	....	....	....
Hernando	12	17	2,150
Hillsborough	107	31	5,750
Holmes	375	370	32,420
Jackson	360	135	13.036
Jefferson	1,226	423	22,908
LaFayette	57	17	790
Lake	1,561	686	66,938
*Lee	....	....	....
Leon	10	20	1,850
Levy	288	126	8,079
Liberty	7	2	225
Madison	23	8	325
*Manatee	....	....	....
Marion	3,492	1,188	113,240
*Monroe	....	....	....
*Nassau	....	....	....
Orange	96	28	5,825
*Osceola	....	....	....
Palm Beach	1	1	90
*Pasco	....	....	....
Polk	141	79	6,095
*Putnam	....	....	....
Santa Rosa	14	8	1.532
St. Johns	105	2,290	22.900
St. Lucie	29	5	1,446
Sumter	895	266	30,981
Suwannee	22	8	775
Taylor	....	....	....
Volusia	204	58	8,260
Wakulla	10	2	200
Walton	3	2	220
Washington	35	13	1.259
Totals	10,496	7,410	$ 447,013

*No Report.

TABLE NO. 2.—VEGETABLES AND GARDEN PRODUCTS. 1909-10.—*Continued.*

COUNTIES.	CANTALOUPES.		
	ACRES.	CRATES.	VALUE.
Alachua	476	53,266	$ 41,040
Baker			
Bradford			
Brevard			
Calhoun			
*Citrus			
Clay			
Columbia			
Dade			
DeSoto			
Duval	5	725	925
Escambia	7	862	874
Franklin	12	2,375	7,800
*Gadsden			
Hamilton			
Hernando			
Hillsborough	3	125	160
Holmes	12	1,389	2,594
Jackson			
Jefferson	14	220	665
Lafayette			
Lake	13	535	485
*Lee			
Leon	4	350	525
Levy	97	8,375	7,225
Liberty			
Madison			
*Manatee			
Marion	3,509	204,200	204,200
*Monroe			
*Nassau			
Orange	2	130	165
*Osceola			
Palm Beach			
*Pasco			
Polk	1	20	20
*Putnam			
Santa Rosa	1	56	95
St. Johns	4	276	550
St. Lucie			
Sumter	46	3,390	3,255
Suwannee	1	15	20
Taylor			
Volusia			
Wakulla	1	100	150
Walton			
Washington			
Totals	4,208	276,409	$ 270,748

*No Report.

TABLE NO. 2.—VEGETABLES AND GARDEN PRODUCTS. 1909-10.—*Continued.*

COUNTIES.	ENGLISH PEAS.		
	ACRES.	CRATES.	VALUE.
Alachua	9	204	$ 327
Baker			
Bradford	1	50	50
Brevard	1	140	240
Calhoun			
*Citrus			
Clay			
Columbia			
Dade	5	950	300
DeSoto			
Duval	3	110	106
Escambia	2	100	150
Franklin	8	290	269
*Gadsden			
Hamilton			
Hernando			
Hillsborough	2	250	250
Holmes	8	537	796
Jackson			
Jefferson			
Lafayette			
Lake	131	6,478	9,955
*Lee			
Leon			
Levy	2	105	141
Liberty			
Madison			
*Manatee			
Marion	210	10,600	19,500
*Monroe			
*Nassau			
Orange	4	300	310
*Osceola			
Palm Beach	4	180	445
*Pasco			
Polk	1	40	80
*Putnam			
Santa Rosa	2	70	150
St. Johns			
St. Lucie	8	855	1,450
Sumter			
Suwannee			
Taylor			
Volusia	1	50	75
Wakulla			
Walton			
Washington			
Totals	402	21,309	$ 34,594

*No Report.

TABLE NO. 2.—VEGETABLES AND GARDEN PRODUCTS. 1909-10.—*Continued.*

COUNTIES.	BEETS.		
	ACRES.	CRATES.	VALUE.
Alachua	17	2,585	$ 7,355
Baker			
Bradford			
Brevard			
Calhoun			
*Citrus			
Clay	1	55	55
Columbia			
Dade	4	375	600
DeSoto	1	150	150
Duval	2	251	254
Escambia	8	735	741
Franklin	3	310	135
*Gadsden			
Hamilton			
Hernando			
Hillsborough	4	210	265
Holmes	2	265	379
Jackson			
Jefferson			
LaFayette			
Lake	12	745	1,030
*Lee			
Leon			
Levy	4	610	400
Liberty			
Madison			
*Manatee			
Marion	80	4,800	4,400
*Monroe			
*Nassau			
Orange	6	785	920
*Osceola			
Palm Beach	8	1,415	1,761
*Pasco			
Polk	1	150	150
*Putnam			
Santa Rosa	1	10	13
St. Johns			
St. Lucie			
Sumter	22	2,095	2,095
Suwannee			
Taylor			
Volusia	5	785	745
Wakulla			
Walton			
Washington			
Totals	181	16,421	$ 21,448

*No Report.

TABLE NO. 2.—VEGETABLES AND GARDEN PRODUCTS.
1909-10.—*Continued.*

COUNTIES.	BEANS.		
	ACRES.	CRATES.	VALUE.
Alachua	253	25,350	$ 23,110
Baker			
Bradford	5	185	192
Brevard	88	11,850	21,435
Calhoun			
*Citrus			
Clay	1	130	300
Columbia	4	130	125
Dade	737	96,702	167,815
DeSoto	473	38,847	44,696
Duval	8	1,100	1,335
Escambia	13	1,092	727
Franklin	20	1,987	865
*Gadsden			
Hamilton			
Hernando	5	480	430
Hillsborough	240	19,172	21,882
Holmes	85	10,072	10,072
Jackson			
Jefferson			
LaFayette			
Lake	136	10,201	9,907
*Lee			
Leon			
Levy	48	3,368	1,478
Liberty	1	15	15
Madison			
*Manatee			
Marion	1,172	65,010	55,550
*Monroe			
*Nassau			
Orange	67	10,620	11,600
*Osceola			
Palm Beach	358	44,064	51,172
*Pasco			
Polk	40	1,835	1,975
*Putnam			
Santa Rosa	1	165	175
St. Johns	6	570	715
St. Lucie	740	67,780	97,072
Sumter	537	34,632	34,953
Suwannee			
Taylor			
Volusia	10	655	805
Wakulla	1	200	400
Walton			
Washington			
Totals	5,049	446,212	$ 558,801

*No Report

TABLE NO. 3—FRUIT CROPS, 1909-10.

COUNTIES.	ORANGES.			
	BEARING TREES	NON-BEARING	NO. OF CRATES	VALUE
Alachua	33,741	3,825	6,050	$ 23,901
Baker	1,380	....	1,600	1,600
Bradford	1.325	679	612	1,384
Brevard	188,512	48,013	394,808	366,953
Calhoun	1,470	3,984	2,489	8,591
*Citrus	....	....	....	....
Clay	3,327	909	2,632	2,504
Columbia	137	221	509	652
Dade	42,125	101,403	61,779	66,799
DeSoto	224,319	481,121	575,044	422,783
Duval	17,129	4,105	30,539	44,224
Escambia	77	123	46	90
Franklin	1,814	653	15,685	23,920
*Gadsden	....	....	....	....
Hamilton	....	....	....	....
Hernando	12,300	7,862	12,642	13,226
Hillsborough	294,505	65,160	1,081,586	887,733
Holmes	18	63	55	129
Jackson	31	48	7	20
Jefferson	2	....	2	5
Lafayette	75	84	117	118
Lake	251,628	76,077	351,596	280,838
*Lee	....	....	....	....
Leon	....	....	....	....
Levy	2,468	1,505	4,190	4,249
Liberty	3	4	4	14
Madison	3	4	10	25
*Manatee	....	....	....	....
Marion	51,500	1,700	103,050	111,100
*Monroe	....	....	....	....
*Nassau	....	....	....	....
Orange	409,977	66,770	799,164	675,416
*Osceola	....	....	....	....
Palm Beach	12,874	20,387	43,970	49,438
*Pasco	....	....	....	....
Polk	109,798	25,772	174,186	181,042
*Putnam	....	....	....	....
Santa Rosa	1,104	1.020	721	1,476
St. Johns	12,030	20,056	22,984	41,132
St. Lucie	48,337	51,835	32.657	58,183
Sumter	18,424	3,100	39,194	39,294
Suwannee	....	....	....	....
Taylor	....	....	....	....
Volusia	310,810	88,790	476,350	417,450
Wakulla	....	....	....	....
Walton	....	....	....	....
Washington	1	6	12	36
Totals	2,051,244	1,075,279	4,237,290	$ 3,724,349

*No Report.

TABLE NO. 8—FRUIT CROPS, 1909-10—*Continued.*

COUNTIES.	LEMONS.			
	BEARING TREES	NON-BEARING	NO. OF CRATES	VALUE
Alachua				$
Baker				
Bradford				
Brevard	60	106	48	49
Calhoun				
*Citrus				
Clay	9	9	9	9
Columbia				
Dade	2,242	9,502	3,210	5,445
DeSoto	282	598	377	456
Duval				
Escambia				
Franklin	135	63	654	3,152
*Gadsden				
Hamilton				
Hernando	50	1,202	10	10
Hillsborough	350	302	627	727
Holmes				
Jackson				
Jefferson				
Lafayette				
Lake	82	18	65	65
*Lee				
Leon				
Levy	9	21	13	33
Liberty				
Madison				
*Manatee				
Marion				
*Monroe				
*Nassau				
Orange	35		60	125
*Osceola				
Palm Beach	1,607	2,050	1,336	2,527
*Pasco				
Polk	455	853	496	521
*Putnam				
Santa Rosa				
St. Johns				
St. Lucie	313	538	167	230
Sumter				
Suwannee				
Taylor				
Volusia				
Wakulla				
Walton				
Washington				
Totals	5,629	15,262	7,072	$ 13,349

*No Report.

TABLE NO. 3—FRUIT CROPS, 1909-10—*Continued.*

COUNTIES.	LIMES.		
	TREES	CRATES	VALUE
Alachua			$
Baker			
Bradford			
Brevard	10	30	35
Calhoun			
*Citrus			
Clay			
Columbia			
Dade	20,817	10,587	23,459
DeSoto	29	133	152
Duval			
Escambia			
Franklin	3	10	44
*Gadsden			
Hamilton			
Hernando			
Hillsborough			
Holmes			
Jackson			
Jefferson			
Lafayette			
Lake	40	29	49
*Lee			
Leon			
Levy			
Liberty			
Madison			
*Manatee			
Marion			
*Monroe			
*Nassau			
Orange	118	221	442
*Osceola			
Palm Beach	956	1,052	1,086
*Pasco			
Polk	754	175	250
*Putnam			
Santa Rosa			
St. Johns			
St. Lucie	1,536	300	599
Sumter			
Suwannee			
Taylor			
Volusia			
Wakulla			
Walton			
Washington			
Totals	24,263	12,537	$ 26,116

*No Report.

TABLE NO. 8—FRUIT CROPS, 1909-10—*Continued.*

COUNTIES.	GRAPE FRUIT.		
	TREES	CRATES	VALUE
Alachua	1,371	1,341	$ 2,797
Baker	170	180	180
Bradford	...	...	...
Brevard	19,209	28,335	57,161
Calhoun	100	200	1,000
*Citrus	...	...	...
Clay	11	8	10
Columbia	...	...	...
Dade	252,544	184.012	264,692
DeSoto	36,248	53,898	63,931
Duval	...	...	...
Escambia	...	...	...
Franklin	50	132	340
*Gadsden	...	...	...
Hamilton	...	...	...
Hernando	2,984	4,142	7,220
Hillsborough	16,583	35,303	40,865
Holmes	...	...	...
Jackson	...	...	...
Jefferson	...	...	...
Lafayette	...	...	...
Lake	21,645	35,976	62,592
*Lee	...	...	...
Leon	...	...	...
Levy	61	50	84
Liberty	...	...	...
Madison	...	...	...
*Manatee	...	...	...
Marion	3,600	7,800	10,550
*Monroe	...	...	...
*Nassau	...	...	...
Orange	23,544	69,730	111,705
*Osceola	...	...	...
Palm Beach	28,928	10,094	20,111
*Pasco	...	...	...
Polk	20,644	49,272	58,513
*Putnam	...	...	...
Santa Rosa	1	1	5
St. Johns	522	134	848
St. Lucie	65,559	42 535	87,337
Sumter	1,754	2,733	4,856
Suwannee	...	...	...
Taylor	...	...	...
Volusia	27,885	26,890	36,390
Wakulla	...	...	...
Walton	...	...	...
Washington	...	...	...
Totals	523,413	552 816	$ 831,187

*No Report.

TABLE NO. 3—FRUIT CROPS, 1909-10—*Continued.*

COUNTIES.	SUGAR APPLES		AVOCADA PEARS	
	CRATES	VALUE	CRATES	VALUE
Alachua		$		$
Baker				
Bradford				
Brevard				
Calhoun				
*Citrus				
Clay				
Columbia				
Dade	348	760	11,458	32,983
DeSoto				
Duval				
Escambia				
Franklin				
*Gadsden				
Hamilton				
Hernando				
Hillsborough				
Holmes				
Jackson				
Jefferson				
Lafayette				
Lake				
*Lee				
Leon				
Levy				
Liberty				
Madison				
*Manatee				
Marion				
*Monroe				
*Nassau				
Orange				
*Osceola				
Palm Beach	55	247	838	2,973
*Pasco				
Polk				
*Putnam				
Santa Rosa				
St. Johns				
St. Lucie			31	73
Sumter				
Suwannee				
Taylor				
Volusia				
Wakulla				
Walton				
Washington				
Totals	403	$ 1,007	12,327	$ 36,029

*No Report.

TABLE NO. 8—FRUIT CROPS, 1909-10—*Continued.*

COUNTIES.	GRAPE FRUIT.		
	TREES	CRATES	VA
Alachua	1,371	1,341	$
Baker	170	180	
Bradford	....	....	....
Brevard	19,209	28,335	
Calhoun	100	200	
*Citrus	....	....	...
Clay	11	8	
Columbia	....	....	..
Dade	252,544	184.012	
DeSoto	36,248	53,898	
Duval	....	....	
Escambia	....	....	
Franklin	50	132	
*Gadsden	....	....	
Hamilton	....	....	
Hernando	2,984	4,14	
Hillsborough	16,583	35,3	
Holmes	....	....	
Jackson	....	....	
Jefferson	....	....	
Lafayette	....	....	
Lake	21,645	3	
*Lee	....	....	
Leon	....	......	
Levy	61		
Liberty	....	....	
Madison	....	...	
*Manatee	....		
Marion	3,600	...	
*Monroe	....		
*Nassau	....		
Orange	23,544		
*Osceola	....		
Palm Beach	28,92		
*Pasco	....		
Polk	20,6		
*Putnam	....		
Santa Rosa			
St. Johns			
St. Lucie			
Sumter			
Suwannee			
Taylor			
Volusia			
Wakul			
Wa			
W			

1909-10—*Continued.*

[illegible]	[illegible]	LUE	GUAVAS CRATES	GUAVAS VALUE
[illegible]				$
[illegible]				
[illegible]				
[illegible]		4	610	625
[illegible]				
[illegible]				
[illegible]				
[illegible]				
[illegible]		15,143	33,955	19,546
[illegible]		5	554	532
[illegible]				
[illegible]				
[illegible]				
[illegible]				
[illegible]				
[illegible]				
[illegible]	10	15	250	575
[illegible]				
[illegible]				
[illegible]				
[illegible]				
[illegible]			443	426
[illegible]				
[illegible]				
[illegible]				
[illegible]				
[illegible]				
[illegible]				
[illegible]				
[illegible]				
[illegible]				
[illegible]			130	180
[illegible]				
[illegible]	2,092	3,236	4,939	4,919
[illegible]				
[illegible]	25	50	1,361	850
[illegible]				
[illegible]				
[illegible]	42	168		
[illegible]	120	130	1,301	1,028
[illegible]				
[illegible]				
[illegible]				
[illegible]				
[illegible]				
[illegible]				
[illegible]				
[illegible]	25,730	$ 18,751	43,543	$ 28,681

port.

TABLE NO. 3—FRUIT CROPS, 1909-10—*Continued.*

COUNTIES.	PINEAPPLES		BANANAS	
	CRATES	VALUE	BUNCHES	VALUE
Alachua		$		$
Baker				
Bradford				
Brevard	1,420	1,525	2,168	2,318
Calhoun				
*Citrus				
Clay				
Columbia				
Dade	48,858	41,078	4,294	1,901
DeSoto	4,145	5,610	211	111
Duval				
Escambia				
Franklin				
*Gadsden				
Hamilton				
Hernando				
Hillsborough	300	225	50	40
Holmes				
Jackson				
Jefferson				
Lafayette				
Lake	287	349	92	71
*Lee				
Leon				
Levy				
Liberty				
Madison				
*Manatee				
Marion				
*Monroe				
*Nassau				
Orange	1,805	4,010	476	396
*Osceola				
Palm Beach	173,326	168,770	1,997	1,120
*Pasco				
Polk	452	865	830	165
*Putnam				
Santa Rosa				
St. Johns				
St. Lucie	363,266	312,892	4,029	1,662
Sumter				
Suwannee				
Taylor				
Volusia				
Wakulla				
Walton				
Washington				
Totals	593,859	$ 535,324	14,147	$ 7,734

*No Report.

TABLE NO. 3—FRUIT CROPS, 1909-10—*Continued.*

COUNTIES.	MANGOES		GUAVAS	
	CRATES	VALUE	CRATES	VALUE
Alachua		$		$
Baker				
Bradford				
Brevard	2	4	610	625
Calhoun				
*Citrus				
Clay				
Columbia				
Dade	23,437	15,143	33,955	19,546
DeSoto	2	5	554	532
Duval				
Escambia				
Franklin				
*Gadsden				
Hamilton				
Hernando				
Hillsborough	10	15	250	575
Holmes				
Jackson				
Jefferson				
LaFayette				
Lake			443	426
*Lee				
Leon				
Levy				
Liberty				
Madison				
*Manatee				
Marion				
*Monroe				
*Nassau				
Orange			130	180
*Osceola				
Palm Beach	2,092	3,236	4,939	4,919
*Pasco				
Polk	25	50	1,361	850
*Putnam				
Santa Rosa				
St. Johns	42	168		
St. Lucie	120	130	1,301	1,028
Sumter				
Suwannee				
Taylor				
Volusia				
Wakulla				
Walton				
Washington				
Totals	25,730	$ 18,751	43,543	$ 28,681

*No Report.

TABLE NO. 3—FRUIT CROPS, 1909-10—*Continued.*

COUNTIES.	COCOANUTS.		
	TREES	NUTS	VALUE
Alachua			$
Baker			
Bradford			
Brevard			
Calhoun			
*Citrus			
Clay			
Columbia			
Dade	12,621	94,950	3,286
DeSoto			
Duval			
Escambia			
Franklin			
*Gadsden			
Hamilton			
Hernando			
Hillsborough			
Holmes			
Jackson			
Jefferson			
Lafayette			
Lake			
*Lee			
Leon			
Levy			
Liberty			
Madison			
*Manatee			
Marion			
*Monroe			
*Nassau			
Orange			
*Osceola			
Palm Beach	10,437	62,397	3,751
*Pasco			
Polk			
*Putnam			
Santa Rosa			
St. Johns			
St. Lucie	189	44	5
Sumter			
Suwannee			
Taylor			
Volusia			
Wakulla			
Walton			
Washington			
Totals	23,247	157,391	$ 7,042

*No Report.

TABLE NO. 3—FRUIT CROPS, 1909-10—*Continued.*

COUNTIES.	PECANS.		
	TREES	BUSH.	VALUE
Alachua	16,050	6,427	$ 7,481
Baker	1,939	698	2.275
Bradford	1,745	2,404	8,746
Brevard	143	7	40
Calhoun	49	92	184
***Citrus**	....	....	....
Clay	803	292	712
Columbia	2,991	1,270	5,987
Dade	....	....	....
DeSoto	180	59	123
Duval	829	49	618
Escambia	5,365	684	2.673
Franklin	340	1,360	7,128
***Gadsden**	....	....	....
Hamilton	....	....	....
Hernando	917	27	36
Hillsborough	....	....	....
Holmes	3,942	270	1,026
Jackson	681	129	486
Jefferson	4,211	1,781	4,337
Lafayette	39	49	48
Lake	633	14	44
***Lee**	....	....	....
Leon	1,927	2,379	6,198
Levy	2,935	456	2,229
Liberty	....	....	....
Madison	194	1,020	2,892
***Manatee**	....	....	....
Marion	....	....	....
***Monroe**	....	....	....
***Nassau**	....	....	....
Orange	1,386	73	702
***Osceola**	....	....	....
Palm Beach	....	....	....
***Pasco**	....	....	....
Polk	50	13	15
***Putnam**	....	....	....
Santa Rosa	13,692	3,939	19,372
St. Johns	828	572	8.292
St. Lucie	....	....	....
Sumter	....	....	....
Suwannee	....	....	....
Taylor	....	....	....
Volusia	4,750	87	445
Wakulla	125	186	1,230
Walton	2,927	695	6,145
Washington	411	34	1,235
Totals	70,082	25,066	$ 90,699

***No Report.**

TABLE NO. 3—FRUIT CROPS, 1909-10—*Continued.*

COUNTIES.	STRAWBERRIES.		
	ACRES	QUARTS	VALUE
Alachua	4	2,500	$ 450
Baker	....	....	....
Bradford	729	1,522,155	146,438
Brevard	1	5,000	1,000
Calhoun	....	....	....
*Citrus	....	....	....
Clay	19	45,952	4,595
Columbia	....	....	....
Dade	1	3,848	1,165
DeSoto	4	5,235	785
Duval	15	35,500	5,325
Escambia	2	580	68
Franklin	....	....	....
*Gadsden	....	....	....
Hamilton	....	....	....
Hernando	1	350	500
Hillsborough	124	278,050	46,970
Holmes	2	2,442	339
Jackson	....	....	....
Jefferson	....	....	....
LaFayette	....	....	....
Lake	3	2,800	470
*Lee	....	....	....
Leon	2	1,157	277
Levy	....	....	....
Liberty	....	....	....
Madison	....	....	....
*Manatee	....	....	....
Marion	....	....	....
*Monroe	....	....	....
*Nassau	....	....	....
Orange	9	16,700	4,385
*Osceola	....	....	....
Palm Beach	1	430	210
*Pasco	....	....	....
Polk	322	379,558	102,955
*Putnam	....	....	....
Santa Rosa	2	1,480	317
St. Johns	6	5,100	510
St. Lucie	....	....	....
Sumter	....	....	....
Suwannee	....	....	....
Taylor	....	....	....
Voluisa	17	23,600	2,360
Wakulla	....	....	....
Walton	....	....	....
Washington	1	1,000	150
Totals	1,265	2,333,437	$ 319,269

*No Report.

TABLE NO. 8—FRUIT CROPS, 1909-10—*Continued.*

COUNTIES.	PEARS.		
	TREES	BBLS.	VALUE
Alachua	1,492	888	$ 925
Baker	2,171	1,839	2,993
Bradford	177	157	264
Brevard	....	....	....
Calhoun	226	539	1,078
*Citrus	....	....	....
Clay	5,605	2,306	4,310
Columbia	2,645	1,394	3.558
Dade	281	47	230
DeSoto	66	13	37
Duval	3,312	5,899	6,255
Escambia	4,837	1,618	1,774
Franklin	1,190	2,380	4,820
*Gadsden	....	....	....
Hamilton	....	....	....
Hernando	285	325	676
Hillsborough	....	....	....
Holmes	1,056	702	2,484
Jackson	329	198	474
Jefferson	8,946	6,335	6,134
Lafayette	403	817	1,257
Lake	2,175	1,815	2,432
*Lee	....	....	....
Leon	4,839	2,694	3,593
Levy	2,631	3,357	3,357
Liberty	38	74	80
Madison	758	1,045	551
*Manatee	....	....	....
Marion	1,700	2,300	2,300
*Monroe	....	....	....
*Nassau	....	....	....
Orange	97	84	108
*Osceola	....	....	....
Palm Beach	....	....	....
*Pasco	....	....	....
Polk	19	33	70
*Putnam	....	....	....
Santa Rosa	1,449	1,077	1,734
St. Johns	400	496	1,488
St. Lucie	....	....	....
Sumter	69	101	150
Suwannee	....	....	....
Taylor	291	798	1,237
Volusia	1,370	810	1,620
Wakulla	2,125	3,822	4,240
Walton	1,106	666	1.742
Washington	75	67	113
Totals	52,163	44,696	$ 62,134

*No Report.

TABLE NO. 3—FRUIT CROPS, 1909-10—*Continued.*

COUNTIES.	PEACHES		
	TREES	BUSH.	VALUE.
Alachua	11,403	4,708	$ 4,504
Baker	3,682	2,785	3,781
Bradford	3,291	1,235	1,289
Brevard	669	360	480
Calhoun	851	1,113	1,113
*Citrus	....	....	....
Clay	4,836	1,267	1,080
Columbia	3,261	3,108	3,020
Dade	350	110	255
DeSoto	6,592	1,926	3,852
Duval	535	1,022	1,057
Escambia	13,625	4,457	7,687
Franklin	1,277	3,825	5,772
*Gadsden	....	....	....
Hamilton	....	....	....
Hernando	3,795	2,935	3,125
Hillsborough	1,755	439	452
Holmes	11,491	7,011	7,939
Jackson	2,544	1,282	1,282
Jefferson	1,689	1,354	1,652
LaFayette	1,171	2,806	2,806
Lake	12,840	3,839	3,828
*Lee	....	....	....
Leon	4,055	1,476	1,674
Levy	5,243	1,690	1,690
Liberty	441	367	402
Madison	125	274	271
*Manatee	....	....	....
Marion	1,000	1,000	1,000
*Monroe	....	....	....
*Nassau	....	....	....
Orange	3,659	1,742	2,245
*Osceola	....	....	....
Palm Beach	4	1	3
*Pasco	....	....	....
Polk	2,783	1,991	2,340
*Putnam	....	....	....
Santa Rosa	13,489	4,782	4,351
St. Johns	1,933	1,156	4,005
St Lucie	466	21	31
Sumter	753	1,425	1,445
Suwannee	....	....	....
Taylor	1,362	1,853	2,448
Volusia	69,485	23,665	25,275
Wakulla	4,551	7,019	6,031
Walton	7,946	2,434	8,150
Washington	1,720	1,534	1.534
Totals	204,672	98,012	$ 117,869

*No Report.

TABLE NO. 3—FRUIT CROPS, 1909-10—*Continued.*

COUNTIES.	GRAPE VINES			
	Grapes		Wines	
	POUNDS	VALUE	GALLONS	VALUE
Alachua		$		$
Baker	15,890	771	376	376
Bradford	3 000	934	100	45
Brevard	12,930	801		
Calhoun	21,480	716	202	202
*Citrus				
Clay	3,010	353		
Columbia	36,234	4,263	55	56
Dade	1,180	140		
DeSoto	2,168	292		
Duval	19,740	856	1.335	1,335
Escambia	12,497	577	102	55
Franklin	291,735	2,917		
*Gadsden				
Hamilton				
Hernando	6.020	420		
Hillsborough	5,462	520		
Holmes	82,462	776	4	8
Jackson	152	12		
Jefferson	1,945	410		
Lafayette				
Lake	4,365	432		
*Lee				
Leon	2,479	370	83	45
Levy	32,470	851		
Liberty	508	60	10	8
Madison	400	40		
*Manatee				
Marion	5,000	250	200	400
*Monroe				
*Nassau				
Orange	30,560	1,789	1,100	3,300
*Osceola				
Palm Beach	315	30		
*Pasco				
Polk	1,309	320		
*Putnam				
Santa Rosa	31,723	2,343	797	1,585
St. Johns	48,660	4,181	20,850	20,850
St. Lucie	1,285	67		
Sumter	200	20		
Suwannee	2,400	208	2,500	2,500
Taylor	4.575	430		
Volusia	23,150	1,160	1,540	3,080
Wakulla	41 340	1,484	165	240
Walton	2,923	354		
Washington	9,116	396		
Totals	754,682	$ 29,543	29.419	$ 34,085

*No Report.

TABLE NO. 3—FRUIT CROPS, 1909-10—*Continued.*

COUNTIES.	FIGS	
	CRATES	VALUE
Alachua	....	$................
Baker	....	....
Bradford	....	....
Brevard	22	52
Calhoun	412	824
*Citrus	....	....
Clay	2	5
Columbia	18	64
Dade	113	246
DeSoto	6	10
Duval	36	54
Escambia	1,194	2,055
Franklin	764	1,276
*Gadsden	....	....
Hamilton	....	....
Hernando	72	144
Hillsborough	....	....
Holmes	4,929	8,919
Jackson	109	64
Jefferson	486	878
Lafayette	37	62
Lake	52	57
*Lee	....	....
Leon	1,944	2,255
Levy	553	811
Liberty	....	....
Madison	14	54
*Manatee	....	....
Marion	....	....
*Monroe	....	....
*Nassau	....	....
Orange	15	30
*Osceola	....	....
Palm Beach	....	....
*Pasco	....	....
Polk	140	61
*Putnam	....	....
Santa Rosa	1,948	1,438
St. Johns	755	1,510
St. Lucie	....	....
Sumter	....	....
Suwannee	....	....
Taylor	....	....
Volusia	370	575
Wakulla	138	369
Walton	492	492
Washington	89	109
Totals	14,710	$ 22,399

*No Report.

TABLE NO. 4—LIVE STOCK, 1909-10.

COUNTIES.	HORSES. (On hand July 1, 1910.)	
	NUMBER	VALUE—DOLLARS
Alachua	3,688	$ 389,493
Baker	467	44,062
Bradford	1,540	169,285
Brevard	361	35,900
Calhoun	580	66,540
*Citrus		
Clay	461	53,124
Columbia	1,414	157,378
Dade	859	131,130
DeSoto	1,718	194,360
Duval	3,939	701,133
Escambia	2,204	162,882
Franklin	56	17,725
*Gadsden		
Hamilton	1,897	281,675
Hernando	636	56,015
Hillsborough	4,089	578,145
Holmes	577	69,660
Jackson	1,929	177,670
Jefferson	2,115	212,540
Lafayette	875	106,955
Lake	1,119	112,085
*Lee		
Leon	1,701	215,927
Levy	1,149	96,740
Liberty	359	39,430
Madison	1,341	156,718
*Manatee		
Marion	2,212	157,545
*Monroe		
*Nassau		
Orange	1,773	210,015
*Osceola		
Palm Beach	204	33,343
*Pasco		
Polk	2,101	260,215
*Putnam		
Santa Rosa	1,278	96,475
St. Johns	1,063	143,823
St. Lucie	271	30,185
Sumter	1,701	172,024
Suwannee	1,676	202,785
Taylor	358	35,220
Volusia	2,143	182,140
Wakulla	371	40,585
Walton	604	67,477
Washington	898	104,000
Totals	54,577	$ 5,962,404

*No Report.

TABLE NO. 4—LIVE STOCK, 1909-10—*Continued.*

COUNTIES.	MULES. (On hand July 1, 1910.) NUMBER	VALUE—DOLLARS
Alachua	1,403	$ 244,848
Baker	390	49.220
Bradford	943	150,580
Brevard	83	15,950
Calhoun	575	89,490
*Citrus	....	....
Clay	288	51.295
Columbia	1,150	149,570
Dade	427	81.210
DeSoto	599	106.230
Duval	1,549	364.050
Escambia	467	61,225
Franklin	49	9,070
*Gadsden	....	....
Hamilton	1,621	339,175
Hernando	178	27,600
Hillsborough	923	154,265
Holmes	1,180	165,213
Jackson	2.475	436.590
Jefferson	1,724	239.942
LaFayette	509	70.515
Lake	392	55,480
*Lee	....	....
Leon	973	149,345
Levy	172	26.140
Liberty	241	24,555
Madison	1,849	265,878
*Manatee	....	....
Marion	1,394	177,540
*Monroe	....	....
*Nassau	....	....
Orange	578	95,260
*Osceola	....	....
Palm Beach	168	34,750
*Pasco	....	....
Polk	502	77,755
*Putnam	....	....
Santa Rosa	711	96,675
St. Johns	509	101,850
St. Lucie	49	7,855
Sumter	228	39,450
Suwannee	1,293	204.240
Taylor	488	68,755
Volusia	678	30,845
Wakulla	267	38.306
Walton	749	57.048
Washington	899	127,962
Totals	28,673	$ 4,485,727

*No Report.

TABLE NO. 4—LIVE STOCK, 1909-10—*Continued.*

COUNTIES.	ASSES. (On hand July 1, 1910.)	
	NUMBER	VALUE—DOLLARS
Alachua	8	$ 1,875
Baker	3	200
Bradford	7	450
Brevard		
Calhoun		
*Citrus		
Clay	2	100
Columbia	15	1,725
Dade	3	70
DeSoto	8	730
Duval	18	725
Escambia	4	240
Franklin	6	255
*Gadsden		
Hamilton		
Hernando		
Hillsborough	2	500
Holmes	3	1,000
Jackson	3	400
Jefferson	6	600
Lafayette		
Lake		
*Lee		
Leon	7	690
Levy	2	150
Liberty	5	550
Madison		
*Manatee		
Marion		
*Monroe		
*Nassau		
Orange	1	400
*Osceola		
Palm Beach		
*Pasco		
Polk	2	110
*Putnam		
Santa Rosa	11	1,115
St. Johns	61	625
St. Lucie	2	50
Sumter	1	150
Suwannee		
Taylor		
Volusia	4	250
Wakulla		
Walton		
Washington	3	150
Totals	187	$ 13,110

*No Report.

TABLE NO. 4—LIVE STOCK, 1909-10—*Continued.*

COUNTIES.	WORK OXEN—NO YOKE. (On hand July 1, 1910.)	
	NUMBER	VALUE—DOLLARS
Alachua	84	$ 3,010
Baker	71	1,715
Bradford	48	1,590
Brevard	25	1,510
Calhoun	347	17,400
*Citrus	.....	.....
Clay	162	7,960
Columbia	14	505
Dade	22	940
DeSoto	291	16,117
Duval	61	1,825
Escambia	618	17,327
Franklin	23	500
*Gadsden	.....	.....
Hamilton	.....	.....
Hernando	35	875
Hillsborough	127	6,190
Holmes	656	35,656
Jackson	537	13,131
Jefferson	627	15,632
LaFayette	83	2,245
Lake	17	1,660
*Lee	.....	.....
Leon	644	16,405
Levy	51	1,190
Liberty	259	8,210
Madison	67	1,250
*Manatee	.....	.....
Marion	.....	.....
*Monroe	.....	.....
*Nassau	.....	.....
Orange	23	1,870
*Osceola	.....	.....
Palm Beach	24	630
*Pasco	.....	.....
Polk	31	730
*Putnam	.....	.....
Santa Rosa	908	50,273
St. Johns	89	6,675
St. Lucie	39	2,035
Sumter	14	295
Suwannee	.....	.....
Taylor	4	300
Volusia	6	300
Wakulla	31	892
Walton	829	24,293
Washington	648	22,829
Totals	7,515	$ 283,965

*No Report.

TABLE NO. 4—LIVE STOCK, 1909-10—*Continued.*

COUNTIES.	STOCK CATTLE. Native Breeds, all ages. (On hand July 1, 1910.)	
	NUMBER	VALUE—DOLLARS
Alachua	30,115	$ 251,168
Baker	13,488	112,975
Bradford	17,836	189,507
Brevard	6,841	68,687
Calhoun	10,231	81,068
*Citrus	...	...
Clay	12,523	125,230
Columbia	16,465	135,988
Dade	97	1,620
DeSoto	121,776	1,239,661
Duval	6,003	68,925
Escambia	7,901	82.490
Franklin	1,354	19,204
*Gadsden	...	...
Hamilton	11,884	130,410
Hernando	8,092	75,111
Hillsborough	45,705	457,270
Holmes	7,056	73,086
Jackson	11,916	91,864
Jefferson	6,499	61,561
LaFayette	31,497	266,218
Lake	8,794	87,443
*Lee	...	...
Leon	5,074	50,545
Levy	14,384	127,426
Liberty	7,428	67,732
Madison	7,885	72,184
*Manatee	...	...
Marion	5,970	59,500
*Monroe	...	...
*Nassau	...	...
Orange	32,678	303.127
*Osceola	...	...
Palm Beach	850	8,872
*Pasco	...	...
Polk	35,264	272.491
*Putnam	...	...
Santa Rosa	16,110	51,474
St. Johns	23,918	239,180
St. Lucie	10,424	83,009
Sumter	17,545	177,800
Suwannee	18,988	189,340
Taylor	8,777	52,310
Volusia	23,563	235,630
Wakulla	6,076	24,011
Walton	9,650	70.587
Washington	10,335	89,205
Totals	630,992	$ 5,793,859

*No Report.

TABLE NO. 4—LIVE STOCK, 1909-10—*Continued.*

COUNTIES.	THOROUGHBRED CATTLE. Including 3-4 grades and up—all ages. (On hand July 1, 1910.) HEREFORD AND GRADES. NUMBER	VALUE—DOLLARS
Alachua	6	$ 190
Baker		
Bradford	4	100
Brevard	8	400
Calhoun	2	45
*Citrus		
Clay		
Columbia	11	275
Dade		
DeSoto	22	630
Duval	20	1,000
Escambia	9	170
Franklin		
*Gadsden		
Hamilton		
Hernando		
Hillsborough	4	100
Holmes	16	5,028
Jackson	8	155
Jefferson	95	1,625
Lafayette	1	50
Lake		
*Lee		
Leon	142	1,575
Levy	1	150
Liberty	10	600
Madison	81	335
*Manatee		
Marion		
*Monroe		
*Nassau		
Orange		
*Osceola		
Palm Beach		
*Pasco		
Polk	46	510
*Putnam		
Santa Rosa	9	330
St. Johns		
St. Lucie		
Sumter		
Suwannee		
Taylor		
Volusia		
Wakulla		
Walton		
Washington	39	670
Totals	534	$ 13,938

*No Report.

TABLE NO. 4—LIVE STOCK, 1909-10—*Continued.*

COUNTIES.	THOROUGHBRED CATTLE. Including 3-4 grades and up—all ages. (On hand July 1, 1910.) SHORTHORN AND GRADES. Number	Value—Dollars
Alachua	28	$ 2,125
Baker		
Bradford	3	100
Brevard	2	100
Calhoun		
*Citrus		
Clay	6	130
Columbia		
Dade		
DeSoto	21	530
Duval		
Escambia	1	50
Franklin		
*Gadsden		
Hamilton		
Hernando	1	50
Hillsborough		
Holmes	86	2,187
Jackson	42	855
Jefferson	10	200
La Fayette	1	40
Lake		
*Lee		
Leon	105	2,205
Levy	18	1,640
Liberty	25	940
Madison	8	120
*Manatee		
Marion	380	20,500
*Monroe		
*Nassau		
Orange		
*Osceola		
Palm Beach		
*Pasco		
Polk	2	120
*Putnam		
Santa Rosa	36	1,685
St. Johns		
St. Lucie		
Sumter		
Suwannee		
Taylor		
Volusia		
Wakulla		
Walton	7	250
Washington	16	435
Totals	798	$ 34,262

*No Report.

TABLE NO. 4—LIVE STOCK, 1909-10—*Continued.*

COUNTIES.	THOROUGHBRED CATTLE. Including 3-4 grades and up—all ages. (On hand July 1, 1910.)	
	DEVON AND GRADES.	
	NUMBER	VALUE—DOLLARS
Alachua	17	$ 540
Baker		
Bradford		
Brevard	3	150
Calhoun	6	110
*Citrus		
Clay		
Columbia		
Dade	3	150
DeSoto	32	1,385
Duval		
Escambia		
Franklin		
*Gadsden		
Hamilton		
Hernando		
Hillsborough		
Holmes	19	570
Jackson	4	80
Jefferson	10	200
Lafayette	5	180
Lake		
*Lee		
Leon		
Levy		
Liberty		
Madison		
*Manatee		
Marion		
*Monroe		
*Nassau		
Orange	28	1,400
*Osceola		
Palm Beach		
*Pasco		
Polk	8	435
*Putnam		
Santa Rosa	3	55
St. Johns		
St. Lucie		
Sumter		
Suwannee		
Taylor		
Volusia		
Wakulla		
Walton		
Washington		
Totals	138	$ 5,255

*No Report.

TABLE NO. 4—LIVE STOCK, 1909-10—*Continued.*

COUNTIES.	THOROUGHBRED CATTLE. Including 3-4 grades and up—all ages. (On hand July 1, 1910.)	
	ABERDEEN, ANGUS, POLLED AND GRADES.	
	NUMBER	VALUE—DOLLARS
Alachua		$
Baker		
Bradford		
Brevard		
Calhoun		
*Citrus		
Clay		
Columbia		
Dade		
DeSoto	6	290
Duval		
Escambia		
Franklin	7	525
*Gadsden		
Hamilton		
Hernando		
Hillsborough		
Holmes	39	879
Jackson		
Jefferson	12	250
Lafayette		
Lake		
*Lee		
Leon		
Levy		
Liberty		
Madison		
*Manatee		
Marion		
*Monroe		
*Nassau		
Orange		
*Osceola		
Palm Beach		
*Pasco		
Polk	1	60
*Putnam		
Santa Rosa	8	320
St. Johns		
St. Lucie		
Sumter		
Suwannee		
Taylor		
Volusia		
Wakulla		
Walton		
Washington	2	40
Totals	75	$ 2,439

*No Report.

TABLE NO. 4—LIVE STOCK, 1909-10—*Continued.*

COUNTIES.	THOROUGHBRED CATTLE. Including 3-4 grades and up—all ages. (On hand July 1, 1910.)	
	JERSEY AND GRADES.	
	NUMBER	VALUE—DOLLARS
Alachua	1,005	$ 35,820
Baker	....	....
Bradford	232	10,160
Brevard	32	1,900
Calhoun	86	1,555
*Citrus	....	....
Clay	101	3,640
Columbia	101	6,075
Dade	4	275
DeSoto	454	14,925
Duval	1,309	94,225
Escambia	757	25.279
Franklin	84	6,300
*Gadsden	....	....
Hamilton	229	13,120
Hernando	84	2,375
Hillsborough	798	20,225
Holmes	753	16,570
Jackson	267	6,325
Jefferson	64	1,825
LaFayette	55	2,065
Lake	246	5,722
*Lee	....	....
Leon	2,236	15,728
Levy	129	3,572
Liberty	55	1,561
Madison	208	6,225
*Manatee	....	....
Marion	230	11,500
*Monroe	....	....
*Nassau	....	....
Orange	287	12,465
*Osceola	....	....
Palm Beach	22	1,325
*Pasco	....	....
Polk	312	12,960
*Putnam	....	....
Santa Rosa	402	13,280
St. Johns	58	2,320
St. Lucie	11	565
Sumter	232	9,635
Suwannee	149	4,255
Taylor	109	4,725
Volusia	194	3,020
Wakulla	30	1,102
Walton	72	2.157
Washington	189	3.487
Totals	11,586	$ 378,263

*No Report.

TABLE NO. 4—LIVE STOCK, 1909-10—*Continued.*

COUNTIES.	COWS. Kept for milk only. (On hand July 1, 1910.)	
	NUMBER	VALUE—DOLLARS
Alachua	1,352	$ 33,482
Baker	181	4,310
Bradford	2,729	34,149
Brevard	26	505
Calhoun	46	1,461
*Citrus	....	....
Clay	32	2,151
Columbia	329	6,881
Dade	284	20,710
DeSoto	865	33,505
Duval	1,667	94,325
Escambia	1,336	54,488
Franklin	210	8,553
*Gadsden	....	....
Hamilton	3,442	91,544
Hernando	205	6,180
Hillsborough	3,459	61,065
Holmes	3,210	65,381
Jackson	3,734	42,170
Jefferson	1,428	31,273
Lafayette	170	3,531
Lake	786	28,985
*Lee	....	....
Leon	3,585	70,208
Levy	1,606	16,566
Liberty	24	954
Madison	1,727	29,885
*Manatee	....	....
Marion	184	9,190
*Monroe	....	....
*Nassau	....	....
Orange	1,385	60,972
*Osceola	....	....
Palm Beach	110	9,285
*Pasco	....	....
Polk	453	19,695
*Putnam	....	....
Santa Rosa	823	22,025
St. Johns	1,410	31,460
St. Lucie	174	7,740
Sumter	282	12,915
Suwannee	4,190	69,006
Taylor	168	6,305
Volusia	747	35,495
Wakulla	20	471
Walton	360	9,220
Washington	1,401	30,267
Totals	44,140	$ 1,066,308

*No Report.

TABLE NO. 4—LIVE STOCK, 1909-10—*Continued.*

COUNTIES.	CATTLE. Movement during period—all ages.	
	Purchased.	
	NUMBER	VALUE—DOLLARS
Alachua	903	$ 10,016
Baker	382	4,981
Bradford	120	1,200
Brevard		
Calhoun	395	3,430
*Citrus		
Clay	1,000	10,000
Columbia	200	1,243
Dade	2,500	20,000
DeSoto	17,620	179,851
Duval	870	9,210
Escambia	606	6,229
Franklin	3	54
*Gadsden		
Hamilton	40	583
Hernando	274	2,755
Hillsborough	6,366	76,910
Holmes	996	11,832
Jackson	1,580	7,957
Jefferson	192	1,750
Lafayette	522	6,891
Lake	204	2,040
*Lee		
Leon	139	1,403
Levy	468	4,407
Liberty	260	24,126
Madison	1,144	11,371
*Manatee		
Marion	1,350	17,600
*Monroe		
*Nassau		
Orange	4,363	52,370
*Osceola		
Palm Beach		
*Pasco		
Polk	604	8,915
*Putnam		
Santa Rosa	1,024	12,288
St. Johns		
St. Lucie		
Sumter	1,350	13,930
Suwannee	1,103	13,260
Taylor	16	160
Volusia		
Wakulla	66	716
Walton	70	500
Washington	496	4,244
Totals	47,226	$ 522,282

*No Report.

TABLE NO. 4—LIVE STOCK, 1909-10—*Continued.*

COUNTIES.	CATTLE. Movement during period—all ages. Sold Living.	
	NUMBER	VALUE—DOLLARS
Alachua	1,362	$ 19,253
Baker	745	10,667
Bradford	867	10,347
Brevard	....	....
Calhoun	12	312
*Citrus	....	....
Clay	731	1,973
Columbia	715	8,315
Dade	....	....
DeSoto	21,281	231,092
Duval	150	2,080
Escambia	768	9,462
Franklin	28	285
*Gadsden	....	....
Hamilton	554	8,588
Hernando	204	2,596
Hillsborough	2,105	29,394
Holmes	1,364	16,718
Jackson	1,788	20,098
Jefferson	221	2,751
Lafayette	48	705
Lake	670	7,212
*Lee	....	....
Leon	276	4,577
Levy	672	8,815
Liberty	362	2,325
Madison	2,134	14,470
*Manatee	....	....
Marion	2,603	30,100
*Monroe	....	....
*Nassau	....	....
Orange	571	7,880
*Osceola	....	....
Palm Beach	....	....
*Pasco	....	....
Polk	1,038	8,931
*Putnam	....	....
Santa Rosa	1,020	12,097
St. Johns	731	15,794
St. Lucie	163	2,323
Sumter	936	12,849
Suwannee	68	930
Taylor	1,588	21,310
Volusia	....	....
Wakulla	235	3,053
Walton	1,101	9,851
Washington	737	7,312
Total	47,848	$ 544,468

*No Report.

TABLE NO. 4—LIVE STOCK, 1909-10—*Continued.*

COUNTIES.	CATTLE. Movement during period—all ages.	
	Slaughtered.	
	NUMBER	VALUE—DOLLARS
Alachua	326	$ 14,760
Baker	256	2,850
Bradford	34	467
Brevard	300	4,700
Calhoun	323	4,638
*Citrus		
Clay	313	1,195
Columbia	374	5,481
Dade	2,500	80,000
DeSoto	802	9,580
Duval	125	2,450
Escambia	594	6,593
Franklin	207	6,240
*Gadsden		
Hamilton	532	8,688
Hernando	400	4,063
Hillsborough	7,288	98,875
Holmes	542	6,755
Jackson	551	5,654
Jefferson	171	1,736
Lafayette	182	4,237
Lake	89	1,167
*Lee		
Leon	107	2,099
Levy	150	534
Liberty	97	1,570
Madison	705	8,421
*Manatee		
Marion	2,700	38,000
*Monroe		
*Nassau		
Orange	5,390	75,910
*Osceola		
Palm Beach		
*Pasco		
Polk	697	6,510
*Putnam		
Santa Rosa	900	14,443
St. Johns	2,595	86,230
St. Lucie	26	280
Sumter	354	6,172
Suwannee	1,009	12,090
Taylor		
Volusia		
Wakulla	36	527
Walton	407	4,507
Washington	234	2,892
Totals	31,816	$ 430,314

*No Report.

TABLE NO. 4—LIVE STOCK, 1909-10—*Continued.*

COUNTIES.	CATTLE. Movement during period—all ages. Died of Disease.	
	NUMBER	VALUE—DOLLARS
Alachua	940	$ 8,235
Baker	128	1,300
Bradford	97	987
Brevard	....	....
Calhoun	....	....
*Citrus	....	....
Clay	104	1,040
Columbia	73	457
Dade	....	....
DeSoto	9,266	92,552
Duval	....	....
Escambia	239	2,232
Franklin	....	....
*Gadsden	....	....
Hamilton	201	2,653
Hernando	1	10
Hillsborough	271	2,815
Holmes	321	4,045
Jackson	330	3,483
Jefferson	60	619
Lafayette	20	185
Lake	60	564
*Lee	....	....
Leon	226	2,190
Levy	10	100
Liberty	57	460
Madison	160	888
*Manatee	....	....
Marion	....	....
*Monroe	....	....
*Nassau	....	....
Orange	32	495
*Osceola	....	....
Palm Beach	....	....
*Pasco	....	....
Polk	724	4,945
*Putnam	....	....
Santa Rosa	99	1,265
St. Johns	63	1,016
St. Lucie	....	....
Sumter	751	6,578
Suwannee	9	115
Taylor	138	850
Volusia	....	....
Wakulla	119	600
Walton	112	907
Washington	161	1,578
Totals	14,772	$ 143,164

*No Report.

TABLE NO. 4—LIVE STOCK, 1909-10—*Continued.*

COUNTIES.	CATTLE. Movement during period—all ages.	
	Died of exposure to weather.	
	NUMBER	VALUE—DOLLARS
Alachua	1,650	$ 16,200
Baker	951	9,250
Bradford	173	1,650
Brevard		
Calhoun	5	30
*Citrus		
Clay	784	7,840
Columbia	247	2 ,062
Dade		
DeSoto	2,146	21,182
Duval	25	250
Escambia	171	1,804
Franklin	62	965
*Gadsden		
Hamilton	7	35
Hernando	864	8,383
Hillsborough	830	8,465
Holmes	87	639
Jackson	118	1,081
Jefferson	23	262
Lafayette	81	650
Lake	23	315
*Lee		
Leon	61	803
Levy	2,165	21,650
Liberty	3	30
Madison	96	710
*Manatee		
Marion		
*Monroe		
*Nassau		
Orange	177	1,365
*Osceola		
Palm Beach		
*Pasco		
Polk	159	1,605
*Putnam		
Santa Rosa	588	5,722
St. Johns		
St. Lucie	59	473
Sumter	507	5,070
Suwannee	19	164
Taylor	585	3,505
Volusia		
Wakulla	68	825
Walton		
Washington	76	659
Totals	12,810	$ 123,644

*No Report.

TABLE NO. 4—LIVE STOCK, 1909-10—*Continued.*

COUNTIES.	HOGS. (All ages on hand July 1, 1910.) NUMBER	 VALUE—DOLLARS
Alachua	37,636	$ 86.294
Baker	10,369	20.794
Bradford	25,766	66,742
Brevard	3,976	10,243
Calhoun	18,711	37,322
*Citrus	....	....
Clay	10,495	11,277
Columbia	35,827	62,706
Dade	156	825
DeSoto	26,297	41,125
Duval	8,039	51,663
Escambia	18,402	29,776
Franklin	1,964	6,035
*Gadsden	....	....
Hamilton	26,735	26,735
Hernando	6,448	19,049
Hillsborough	22,098	66,730
Holmes	24,123	79,925
Jackson	35,983	98,357
Jefferson	24,060	85,481
Lafayette	29,465	186,740
Lake	11,671	25,003
*Lee	....	....
Leon	16,156	64 321
Levy	15,516	31.681
Liberty	11,357	22,725
Madison	32,308	82,116
*Manatee	....	....
Marion	11,362	33,906
*Monroe	....	....
*Nassau	....	....
Orange	8,313	34,410
*Osceola	....	....
Palm Beach	693	2,546
*Pasco	....	....
Polk	16,913	27,489
*Putnam	....	....
Santa Rosa	17,454	34,742
St. Johns	21,265	86,186
St. Lucie	1,463	3.217
Sumter	18,487	38,897
Suwannee	41,125	113,146
Taylor	13,023	15,380
Volusia	12,175	40,825
Wakulla	8,966	16,665
Walton	14,001	21,781
Washington	18,596	49,602
Totals	655,394	$ 1,696,457

*No Report.

TABLE NO. 4—LIVE STOCK, 1909-10—*Continued.*

COUNTIES.	HOGS. Movement during period—all ages.	
	Slaughtered.	
	NUMBER	VALUE—DOLLARS
Alachua	21,128	$ 118,067
Baker	5,447	63,694
Bradford	12,073	89,255
Brevard	152	745
Calhoun	6,149	50,449
*Citrus	....	....
Clay	1,258	7,853
Columbia	14,716	71,152
Dade	....	....
DeSoto	3,298	20,772
Duval	2,980	40,019
Escambia	3,939	26,040
Franklin	1,594	4,695
*Gadsden	....	....
Hamilton	12,519	62,334
Hernando	1,058	6,824
Hillsborough	6,194	35,460
Holmes	11,552	156,170
Jackson	24,415	258,817
Jefferson	15,502	112,283
Lafayette	4,878	19,262
Lake	1,788	8,322
*Lee	....	....
Leon	6,984	36,874
Levy	....	....
Liberty	2,861	24,404
Madison	21,563	136,433
*Manatee	....	....
Marion	4,805	48,150
*Monroe	....	....
*Nassau	....	....
Orange	839	4,565
*Osceola	....	....
Palm Beach	35	250
*Pasco	....	....
Polk	1,341	5,766
*Putnam	....	....
Santa Rosa	6,074	53,364
St. Johns	5,250	52,500
St. Lucie	176	1,333
Sumter	5,206	39.992
Suwannee	24,164	160,813
Taylor	6,190	40,930
Volusia	....	....
Wakulla	466	2,813
Walton	4,338	29 599
Washington	9,146	82,223
Totals	250,078	$ 1,872,222

*No Report.

TABLE NO. 4—LIVE STOCK, 1909-10—*Continued.*

COUNTIES.	HOGS. Movement during period—all ages. Sold Living. NUMBER	 VALUE—DOLLARS
Alachua	1,396	$ 5,479
Baker	527	2,357
Bradford	1,806	10,503
Brevard	15	45
Calhoun	37	86
*Citrus	....	....
Clay	131	319
Columbia	337	2,228
Dade	....	....
DeSoto	4,099	10,303
Duval	333	3,570
Escambia	603	1,867
Franklin	44	95
*Gadsden	....	....
Hamilton	659	2,817
Hernando	499	1,443
Hillsborough	980	4,620
Holmes	1,881	6,159
Jackson	902	3,055
Jefferson	535	1,787
Lafayette	2,108	7,025
Lake	782	2,258
*Lee	....	....
Leon	292	1,108
Levy	80	110
Liberty	917	3,226
Madison	2,079	8,524
*Manatee	....	....
Marion	1,810	15,550
*Monroe	....	....
*Nassau	....	....
Orange	100	360
*Osceola	....	....
Palm Beach	....	....
*Pasco	....	....
Polk	614	1,207
*Putnam	....	....
Santa Rosa	851	2,762
St. Johns	....	....
St. Lucie	179	455
Sumter	396	1,664
Suwannee	123	1,505
Taylor	2,229	7,280
Volusia	....	....
Wakulla	106	230
Walton	342	1,114
Washington	1,162	3,408
Totals	28,954	$ 114,019

*No Report.

TABLE NO. 4—LIVE STOCK, 1909-10—*Continued.*

COUNTIES.	HOGS. Movement during period—all ages. Died of Disease.	
	NUMBER	VALUE—DOLLARS
Alachua	803	$ 2,083
Baker	1,219	2,333
Bradford	909	3,832
Brevard	3	9
Calhoun	141	242
*Citrus	....	....
Clay	1,477	2,659
Columbia	1,477	2,811
Dade	....	....
DeSoto	2,283	3,403
Duval	50	203
Escambia	487	1,087
Franklin	102	306
*Gadsden	....	....
Hamilton	872	2,750
Hernando	407	1,129
Hillsborough	1,152	3,672
Holmes	4,018	10,987
Jackson	5,811	12,731
Jefferson	1,699	4,053
Lafayette	304	684
Lake	645	1,620
*Lee	....	....
Leon	1,799	6,631
Levy	528	1,200
Liberty	381	852
Madison	1,376	3,312
*Manatee	....	....
Marion	....	....
*Monroe	....	....
*Nassau	....	....
Orange	117	341
*Osceola	....	....
Palm Beach	....	....
*Pasco	....	....
Polk	547	904
*Putnam	....	....
Santa Rosa	1,264	2,276
St. Johns	1,239	12,390
St. Lucie	93	146
Sumter	74	186
Suwannee	2,578	5,117
Taylor	2,944	3,327
Volusia	....	....
Wakulla	1,210	2,376
Walton	1,201	1,777
Washington	1,994	4,261
Totals	41,204	$ 101,695

*No Report.

TABLE NO. 4—LIVE STOCK, 1909-10—*Continued.*

COUNTIES.	SHEEP—SHEEP AND LAMBS. Movement during period—all ages.	
	Purchased.	
	NUMBER	VALUE—DOLLARS
Alachua		$
Baker		
Bradford		
Brevard		
Calhoun		
*Citrus		
Clay	175	250
Columbia	5	5
Dade		
DeSoto	350	725
Duval		
Escambia	60	160
Franklin	19	76
*Gadsden		
Hamilton		
Hernando		
Hillsborough	1,015	2,030
Holmes	110	220
Jackson	1,163	2,326
Jefferson	23	43
Lafayette	16	65
Lake	4	25
*Lee		
Leon	52	108
Levy		
Liberty	62	124
Madison	20	100
*Manatee		
Marion	300	600
*Monroe		
*Nassau		
Orange		
*Osceola		
Palm Beach		
*Pasco		
Polk	60	120
*Putnam		
Santa Rosa	1,784	4,378
St. Johns	902	2,006
St. Lucie		
Sumter	903	1,260
Suwannee		
Taylor		
Volusia		
Wakulla		
Walton	23	54
Washington	3,213	7,635
Totals	10,259	$ 22,310

*No Report.

TABLE NO. 4—LIVE STOCK, 1909-10—*Continued.*

COUNTIES.	SHEEP—SHEEP AND LAMBS. Movement during period—all ages.	
	Sold Living.	
	NUMBER	VALUE—DOLLARS
Alachua	19	$ 35
Baker	135	304
Bradford		
Brevard		
Calhoun		
*Citrus		
Clay	90	189
Columbia		
Dade		
DeSoto	46	110
Duval		
Escambia	135	402
Franklin		
*Gadsden		
Hamilton		
Hernando	15	37
Hillsborough	15	30
Holmes	21	62
Jackson	61	122
Jefferson	33	44
Lafayette		
Lake	400	765
*Lee		
Leon	70	140
Levy		
Liberty		
Madison		
*Manatee		
Marion	2,400	4,800
*Monroe		
*Nassau		
Orange		
*Osceola		
Palm Beach		
*Pasco		
Polk	367	751
*Putnam		
Santa Rosa	159	1,999
St. Johns	250	1,000
St. Lucie		
Sumter		
Suwannee		
Taylor		
Volusia		
Wakulla	28	66
Walton	15	30
Washington	30	70
Totals	4,889	$ 10,956

*No Report.

TABLE NO. 4—LIVE STOCK, 1909-10—*Continued.*

COUNTIES.	SHEEP—SHEEP AND LAMBS. Movement during period—all ages. Slaughtered. NUMBER	VALUE—DOLLARS
Alachua		$
Baker	20	50
Bradford		
Brevard		
Calhoun		
*Citrus		
Clay	100	200
Columbia	6	12
Dade		
DeSoto	35	80
Duval		
Escambia	24	72
Franklin		
*Gadsden		
Hamilton		
Hernando	24	225
Hillsborough	1,000	3,000
Holmes	18	36
Jackson	47	94
Jefferson	31	117
Lafayette		
Lake	40	120
*Lee		
Leon	27	83
Levy		
Liberty		
Madison	4	8
*Manatee		
Marion	750	1,500
*Monroe		
*Nassau		
Orange		
*Osceola		
Palm Beach		
*Pasco		
Polk	27	90
*Putnam		
Santa Rosa	35	122
St. Johns		
St. Lucie		
Sumter	40	120
Suwannee		
Taylor		
Volusia		
Wakulla		
Walton	5	10
Washington	49	103
Totals	2,282	$ 6,042

*No Report.

TABLE NO. 4—LIVE STOCK, 1909-10—*Continued.*

COUNTIES.	SHEEP—SHEEP AND LAMBS. Movement during period—all ages. Died of Disease. Number	Value—Dollars
Alachua	....	$....................
Baker	....	....
Bradford	....	....
Brevard	....	....
Calhoun	....	....
*Citrus	....	....
Clay	68	10
Columbia	12	18
Dade	....	....
DeSoto	50	115
Duval	....	....
Escambia	442	874
Franklin	....	....
*Gadsden	....	....
Hamilton	....	....
Hernando	40	90
Hillsborough	104	210
Holmes	222	444
Jackson	58	116
Jefferson	14	17
Lafayette	....	....
Lake	30	88
*Lee	....	....
Leon	25	75
Levy	....	....
Liberty	....	....
Madison	18	38
*Manatee	....	....
Marion	....	....
*Monroe	....	....
*Nassau	....	....
Orange	....	....
*Osceola	....	....
Palm Beach	....	....
*Pasco	....	....
Polk	2	4
*Putnam	....	....
Santa Rosa	82	249
St. Johns	10	40
St. Lucie	....	....
Sumter	....	....
Suwannee	....	....
Taylor	30	50
Volusia	....	....
Wakulla	1	2
Walton	264	528
Washington	311	642
Totals	1,783	$ 3,610

*No Report.

TABLE NO. 4—LIVE STOCK, 1909-10—*Continued.*

COUNTIES.	SHEEP—SHEEP AND LAMBS. Movement during period—all ages. Killed by Dogs.	
	NUMBER	VALUE—DOLLARS
Alachua	10	$ 20
Baker	50	200
Bradford	...	...
Brevard	...	...
Calhoun	170	340
*Citrus	...	...
Clay	152	292
Columbia	30	60
Dade	...	...
DeSoto	85	192
Duval	...	...
Escambia	128	304
Franklin	...	...
*Gadsden	...	...
Hamilton	...	...
Hernando	50	150
Hillsborough	210	520
Holmes	612	1,224
Jackson	273	546
Jefferson	98	209
Lafayette	...	...
Lake	...	...
*Lee	...	...
Leon	20	60
Levy	...	...
Liberty	...	...
Madison	20	30
*Manatee	...	...
Marion	310	570
*Monroe	...	...
*Nassau	...	...
Orange	...	...
*Osceola	...	...
Palm Beach	...	...
*Pasco	...	...
Polk	10	10
*Putnam	...	...
Santa Rosa	1,944	5,430
St. Johns	...	...
St. Lucie	...	...
Sumter	...	...
Suwannee	...	...
Taylor	5	10
Volusia	...	...
Wakulla	14	28
Walton	426	852
Washington	1,137	3,259
Totals	5,754	$ 14,306

*No Report.

TABLE NO. 4—LIVE STOCK, 1909-10—*Continued.*

COUNTIES.	SHEEP—SHEEP AND LAMBS. Movement during period—all ages. Died of exposure to weather. NUMBER	 VALUE—DOLLARS
Alachua		$
Baker		
Bradford		
Brevard		
Calhoun	120	240
*Citrus		
Clay	95	190
Columbia	10	20
Dade		
DeSoto	6	17
Duval		
Escambia	204	388
Franklin		
*Gadsden		
Hamilton		
Hernando	25	75
Hillsborough	100	200
Holmes	23	46
Jackson	35	70
Jefferson	15	30
Lafayette		
Lake		
*Lee		
Leon	40	10
Levy		
Liberty	20	40
Madison		
*Manatee		
Marion		
*Monroe		
*Nassau		
Orange		
*Osceola		
Palm Beach		
*Pasco		
Polk	100	100
*Putnam		
Santa Rosa	212	558
St. Johns		
St. Lucie		
Sumter		
Suwannee		
Taylor	10	20
Volusia		
Wakulla	8	16
Walton	200	400
Washington	10	20
Totals	1,233	$ 2,080

*No Report.

TABLE NO. 4—LIVE STOCK, 1909-10—*Continued.*

COUNTIES.	SHEEP. (All ages on hand July 1, 1910.)	
	NUMBER	VALUE—DOLLARS
Alachua	1,127	$ 1,903
Baker	787	2,920
Bradford		
Brevard		
Calhoun	4,779	9,358
*Citrus		
Clay	975	1,950
Columbia	110	155
Dade		
DeSoto	2,207	3,826
Duval	4	14
Escambia	5,365	11,040
Franklin	12	24
*Gadsden		
Hamilton		
Hernando	1,626	3,015
Hillsborough	4,533	9,302
Holmes	13,272	26,544
Jackson	1,942	3,899
Jefferson	533	1,095
Lafayette	110	185
Lake	150	375
*Lee		
Leon	115	280
Levy	866	2,139
Liberty	887	2,630
Madison	161	313
*Manatee		
Marion	7,000	14,000
*Monroe		
*Nassau		
Orange	756	1,840
*Osceola		
Palm Beach		
*Pasco		
Polk	1,600	2,000
*Putnam		
Santa Rosa	29,674	77,699
St. Johns	7,000	16,500
St. Lucie	2	10
Sumter	1,974	2,628
Suwannee		
Taylor	350	600
Volusia	9,200	27,600
Wakulla	470	920
Walton	18,636	36,056
Washington	11,741	24,921
Totals	127,964	$ 285,741

*No Report.

TABLE NO. 4—LIVE STOCK, 1909-10—*Continued.*

COUNTIES.	GOATS. (All ages on hand July 1, 1910.) NUMBER	 VALUE—DOLLARS
Alachua	1,780	$ 1,613
Baker	1,973	981
Bradford	3,187	1,684
Brevard	....	....
Calhoun	1,416	706
*Citrus	....	....
Clay	781	981
Columbia	1,584	722
Dade	1	3
DeSoto	595	595
Duval	1,118	6,333
Escambia	3,267	1,769
Franklin	737	649
*Gadsden	....	....
Hamilton	78	78
Hernando	646	959
Hillsborough	3,363	3,888
Holmes	996	498
Jackson	2,924	1,341
Jefferson	896	508
Lafayette	954	539
Lake	26	31
*Lee	....	....
Leon	550	1,212
Levy	1,039	907
Liberty	552	286
Madison	639	824
*Manatee	....	....
Marion	2,790	1,735
*Monroe	....	....
*Nassau	....	....
Orange	5	16
*Osceola	....	....
Palm Beach	1	5
*Pasco	....	....
Polk	665	726
*Putnam	....	....
Santa Rosa	2,270	1,210
St. Johns	404	404
St. Lucie	25	47
Sumter	1,452	1,422
Suwannee	234	170
Taylor	495	250
Volusia	124	250
Wakulla	371	371
Walton	686	374
Washington	1,586	978
Totals	40,210	$ 34,561

*No Report.

TABLE NO. 5—POULTRY AND PRODUCTS, 1909-10.

COUNTIES.	POULTRY—ALL AGES.			
	Common Barnyard.		All Others.	
	No.	Value.	No.	Value.
Alachua	96,300	$ 26,708	1,926	$ 1,813
Baker	20,670	8,733	2,998	1.795
Bradford	84,331	19,869	3,077	649
Brevard	16,897	8,414	681	581
Calhoun	35,577	8,870	744	525
*Citrus	....	....	....	....
Clay	27,061	13,634	371	422
Columbia	66,328	20,021	1,389	673
Dade	46,280	33,137	1,025	1,997
DeSoto	59,668	29,218	1,025	838
Duval	272,825	138,972	3,570	3,797
Escambia	92,360	39,192	4,429	4,464
Franklin	16,691	8,314	36	36
*Gadsden	....	....	....	....
Hamilton	76,276	22,682	558	542
Hernando	11,542	6,624	642	538
Hillsborough	178 811	93,860	744	642
Holmes	68,683	16,720	3,115	1,554
Jackson	72,104	19,500	3,694	1,688
Jefferson	68 282	20,655	1,230	572
Lafayette	24,520	6,517	350	118
Lake	51,179	24,461	1,388	1,529
*Lee	....	....	....	....
Leon	48,192	13,843	10,071	2,732
Levy	16,245	12,902	149	184
Liberty	18,319	4,979	97	163
Madison	45,251	12,741	1,584	880
*Manatee	....	....	....	....
Marion	6,122	4,344	9,917	7,465
*Monroe	....	....	....	....
*Nassau	....	....	....	....
Orange	62,796	35,619	1,649	1,490
*Osceola	....	....	....	....
Palm Beach	20,289	14,972	....	....
*Pasco	....	....	....	....
Polk	68,513	36,261	350	170
*Putnam	....	....	....	....
Santa Rosa	60,878	20,139	4,424	2,366
St. Johns	57,954	35,127	195	101
St. Lucie	12,547	6,647	2,290	1.333
Sumter	27.264	13,829	61	47
Suwannee	107,196	38,142	110	110
Taylor	14,220	4,336	....	....
Volusia	52,300	20,921	1,067	1,278
Wakulla	19 371	4,832	25	12
Walton	28,617	11,871	956	643
Washington	46,140	13,245	935	694
Totals	2,099,599	$ 870,801	66,872	$ 44,941

*No Report.

TABLE NO. 5—POULTRY AND PRODUCTS, 1909-10—*Continued.*

COUNTIES.	EGGS—SOLD AND USED.	
	Dozens.	Value.
Alachua	388,431	$ 46,641
Baker	89,455	17,757
Bradford	422,894	42,484
Brevard	3,886	1,009
Calhoun	80,660	16,132
*Citrus	....	....
Clay	66.332	16,783
Columbia	171,705	36,985
Dade	19,575	64,147
DeSoto	118,889	36,573
Duval	962,310	378,949
Escambia	158,767	38,614
Franklin	834	247
*Gadsden	....	....
Hamilton	50,638	10,168
Hernando	36,223	9,645
Hillsborough	675,090	144,605
Holmes	263,357	71,412
Jackson	166.976	13,734
Jefferson	112,307	18,321
Lafayette	28,072	7,010
Lake	98,831	24,624
*Lee	....	....
Leon	47,585	9,312
Levy	47,020	9,564
Liberty	38,292	8,923
Madison	441,140	10,611
*Manatee	....	....
Marion	112,202	28,063
*Monroe	....	....
*Nassau	....	....
Orange	282,166	83,779
*Osceola	....	....
Palm Beach	4,505	2,267
*Pasco	....	....
Polk	57,540	17,214
*Putnam	....	....
Santa Rosa	113,167	25,513
St. Johns	171,828	51,144
St. Lucie	97,743	24,375
Sumter	115,202	22,837
Suwannee	412,446	102,538
Taylor	9,120	2,102
Volusia	227,350	52,300
Wakulla	72.090	10,892
Walton	65,967	15,010
Washington	105,440	19,995
Totals	6,332,045	$ 1,498,198

*No Report.

TABLE NO. 6—DAIRY PRODUCTS, 1909-10.

COUNTIES.	MILK—SOLD AND USED.	
	Gallons.	Value.
Alachua	477,067	$ 137,328
Baker	33,110	13,324
Bradford	314,395	42,002
Brevard		
Calhoun	12,280	4,822
*Citrus		
Clay	3,685	1,368
Columbia	108,825	41.384
Dade	97,000	29,060
DeSoto	167,602	67,335
Duval	1,092,536	441,805
Escambia	323,476	104,767
Franklin	375	122
*Gadsden		
Hamilton	220,255	46,847
Hernando	50,195	6.509
Hillsborough	990,460	380,575
Holmes	1,131,605	241,979
Jackson	609,545	60,571
Jefferson	151,337	43,064
Lafayette		
Lake	237,175	76,398
*Lee		
Leon	208,719	59,839
Levy	101,040	41,112
Liberty	6,180	965
Madison	2,350	221
*Manatee		
Marion	38,000	9,720
*Monroe		
*Nassau		
Orange	267,150	100,098
*Osceola		
Palm Beach	900	360
*Pasco		
Polk	14,776	4,067
*Putnam		
Santa Rosa	197,386	84,098
St. Johns	2,820	1,410
St. Lucie	32,263	12,600
Sumter	89,890	34,345
Suwannee	409 870	163,283
Taylor	50,700	12,135
Volusia	354,950	131,770
Wakulla	4,660	1,358
Walton	92,545	35,626
Washington	193,237	42,173
Totals	6,988,359	$ 2,474,440

*No Report.

TABLE NO. 6—DAIRY PRODUCTS, 1909-10—*Continued.*

COUNTIES.	BUTTER—SOLD AND USED.	
	Pounds.	Value.
Alachua	102,415	$ 32,180
Baker	4,950	1,482
Bradford	56,967	16,537
Brevard	....	....
Calhoun	4,465	1,120
***Citrus**	....	....
Clay	1,060	267
Columbia	32.601	7,374
Dade	5,000	1,750
DeSoto	39,007	9,067
Duval	650	250
Escambia	60,936	15,602
Franklin	....	....
***Gadsden**	....	....
Hamilton	52,153	15,657
Hernando	6.520	2,410
Hillsborough	9,440	3,810
Holmes	56,580	16,974
Jackson	126,188	30,291
Jefferson	38,374	14,133
Lafayette	....	....
Lake	8,610	3,061
***Lee**	....	....
Leon	130,972	37,315
Levy	24,273	10,267
Liberty	1,550	443
Madison	2,983	238
***Manatee**	....	....
Marion	15,550	4,370
***Monroe**	....	....
***Nassau**	....	....
Orange	54,793	20,958
***Osceola**	....	....
Palm Beach	....	....
***Pasco**	....	....
Polk	3,411	1,244
***Putnam**	....	....
Santa Rosa	49,417	14,950
St. Johns	....	....
St. Lucie	260	97
Sumter	20,943	8,736
Suwannee	220,455	90,611
Taylor	10,300	3,833
Volusia	....	....
Wakulla	1,202	379
Walton	3 964	1,288
Washington	43,542	10,252
Totals	1,199,531	$ 376,946

*No Report.

TABLE NO. 6—DAIRY PRODUCTS, 1909-10—*Continued.*

COUNTIES.	CHEESE—SOLD AND USED.	
	Pounds.	Value.
Alachua	180	$ 45
Baker		
Bradford		
Brevard		
Calhoun		
***Citrus**		
Clay		
Columbia	50	12
Dade		
DeSoto		
Duval		
Escambia		
Franklin		
***Gadsden**		
Hamilton		
Hernando		
Hillsborough		
Holmes		
Jackson		
Jefferson	10	2
Lafayette		
Lake		
***Lee**		
Leon		
Levy		
Liberty		
Madison		
***Manatee**		
Marion		
***Monroe**		
***Nassau**		
Orange	150	30
***Osceola**		
Palm Beach		
***Pasco**		
Polk	40	4
***Putnam**		
Santa Rosa		
St. Johns		
St. Lucie		
Sumter		
Suwannee		
Taylor		
Volusia		
Wakulla		
Walton		
Washington		
Totals	430	$ 93

*No Report.

TABLE NO. 7—MISCELLANEOUS PRODUCTS, 1909-10.

COUNTIES.	BEESWAX.	
	Pounds.	Value.
Alachua	32	$ 9
Baker		
Bradford		
Brevard	118	35
Calhoun	2,876	713
*Citrus		
Clay	10	3
Columbia	100	20
Dade		
DeSoto	35	7
Duval		
Escambia	187	35
Franklin	1,205	158
*Gadsden		
Hamilton		
Hernando	25	6
Hillsborough		
Holmes	598	148
Jackson	601	137
Jefferson	378	95
Lafayette	100	20
Lake	127	38
*Lee		
Leon	479	124
Levy		
Liberty	1,121	297
Madison	20	3
*Manatee		
Marion		
*Monroe		
*Nassau		
Orange	600	180
*Osceola		
Palm Beach	500	150
*Pasco		
Polk	50	25
*Putnam		
Santa Rosa	33	7
St. Johns		
St. Lucie	95	27
Sumter		
Suwannee		
Taylor		
Volusia		
Wakulla	1,778	455
Walton	333	65
Washington	741	301
Totals	12,142	$ 3,058

*No Report.

TABLE NO. 7—MISCELLANEOUS PRODUCTS, 1909-10.
(Continued.)

COUNTIES.	HONEY.		
	Stands of Bees.	Pounds.	Value.
Alachua	199	4,080	$ 915
Baker	304	8,020	792
Bradford	184	2,664	308
Brevard	543	35,730	2,395
Calhoun	3,444	211,946	11,290
*Citrus	....	....	....
Clay	149	2,370	278
Columbia	389	7,090	726
Dade	183	6,745	872
DeSoto	632	14,375	1,761
Duval	10	200	20
Escambia	1,382	21,764	8,304
Franklin	2,450	32,200	889
*Gadsden	....	....	....
Hamilton	15	150	18
Hernando	100	1,035	140
Hillsborough	301	8,575	840
Holmes	1,813	69,994	6,972
Jackson	763	5.380	541
Jefferson	565	5,505	623
Lafayette	130	2,600	250
Lake	815	14,680	1,368
*Lee	....	....	....
Leon	319	4,316	469
Levy	277	6,735	545
Liberty	1,106	97,141	1.981
Madison	210	2,220	239
*Manatee	....	....	....
Marion	....	....	....
*Monroe	....	....	....
*Nassau	....	....	....
Orange	741	36,530	2,389
*Osceola	....	....	....
Palm Beach	692	39,650	2.488
*Pasco	....	....	....
Polk	100	3,325	470
*Putnam	....	....	....
Santa Rosa	1,255	20,458	2,197
St. Johns	362	27,150	2,715
St. Lucie	401	14,073	1,013
Sumter	69	2,100	215
Suwannee	....	....	....
Taylor	147	2,930	295
Volusia	2,198	80,020	4,920
Wakulla	1,060	11,410	1,201
Walton	1,500	13,782	1,378
Washington	1,650	33,272	6.173
Totals	26.358	850,242	$ 68,490

*No Report.

TABLE NO. 7—MISCELLANEOUS PRODUCTS, 1909-10.

(Continued.)

COUNTIES.	WOOL (Spring Clip.)		
	No. Fleeces.	Pounds.	Value.
Alachua	400	850	$ 195
Baker	600	1,850	420
Bradford	....	....	....
Brevard	....	....	....
Calhoun	3,505	9,817	2,448
*Citrus	....	....	....
Clay	490	1,630	310
Columbia	100	350	70
Dade	....	....	....
DeSoto	1,206	3,014	790
Duval	80	240	96
Escambia	4,572	11,631	1,394
Franklin	....	....	....
*Gadsden	....	....	....
Hamilton	....	....	....
Hernando	1,253	3,010	870
Hillsborough	2,000	5,246	1,405
Holmes	10,853	29,832	6,786
Jackson	806	1,911	414
Jefferson	104	304	111
Lafayette	....	....	....
Lake	118	345	106
*Lee	....	....	....
Leon	90	1,442	80
Levy	761	2,484	345
Liberty	896	3,226	797
Madison	197	725	211
*Manatee	....	....	....
Marion	7,000	18,300	3,640
*Monroe	....	....	....
*Nassau	....	....	....
Orange	200	600	140
*Osceola	....	....	....
Palm Beach	....	....	....
*Pasco	....	....	....
Polk	750	2,250	440
*Putnam	....	....	....
Santa Rosa	23,457	73,281	15,485
St. Johns	5,204	16,212	3,242
St. Lucie	....	....	....
Sumter	1,800	5,400	1,300
Suwannee	....	....	....
Taylor	....	....	....
Volusia	6,750	24,150	4,830
Wakulla	315	1,700	425
Walton	27,155	57,791	12,704
Washington	7,998	22,076	4,833
Totals	108,660	299,667	$ 63,887

*No Report.

YEAR 1909-10.

Table No. 8—Total Acreage of Crops.

Field Crops, acres	1,103,499
Vegetable and Garden Products, acres	54,047
Total acreage in cultivation	1,157,546

Table No. 9—Total Value of Farm Products.

Table No. 1—Field Crops	$14,612,840
Table No. 2—Vegetable and Garden Products	6,825,912
Table No. 3—Fruit Products	5,905,727
Table No. 4—Live Stock	23,967,501
Table No. 5—Poultry and Products	2,413,940
Table No. 6—Dairy Products	2,851,479
Table No. 7—Miscellaneous Products	135,435
Total	$56,712,734

CLIMATOLOGICAL REPORT

OF THE

STATE OF FLORIDA

FOR 1909

U. S. Department of Agriculture,

CLIMATOLOGICAL SERVICE

of the

WEATHER BUREAU

Central Office: Washington, D. C.

FLORIDA SECTION,

A. J. Mitchell, Section Director.

Year, 1909.

GENERAL SUMMARY.

The leading features of the year were the high average temperatures of January, April and November, and the converse for December, the deficient rainfall during eight months, and the marked excess during one month, July. Hurricane winds prevailed over the extreme southern portion on October the 11th, and a severe cold wave swept the State on December 30th and 31st.

The unusually warm weather of December, 1908, continued during the first four months of 1909. Then followed a comparatively cool May with an excess of precipitation. During the rest of the year the months were alternately slightly above or below normal in temperature, except December, which was decidedly colder than usual. August was the most disagreeable month—due to several days of high temperature and intense insolation.

The Weather by Months.

January.—The mean temperature, 62.4°, was 4.8° above normal. The highest temperature occurred over the southeast portion, and the lowest, in the interior of the western counties. The mild weather that characterized the beginning of the month continued until the 7th, when colder set in over the extreme northern and western counties, giving the first frost of the month. A sharp cold wave on the 30th and 31st gave temperatures of 18° to 20° in the western counties, 20° to 26° in the northern counties, and 26° to 29° in the central counties. The month's rain was deficient.

February.—The month averaged colder than January. which is unusual, although the mean temperature, 60.2°, was slightly above normal. The month opened with the coldest weather of the winter, freezing and below prevailing throughout the mainland. The dates of lowest temperature were generally from the 1st to 4th, 11th to 12th, 17th to 18th, and from the 24th to 27th. The maximum temperature ranged from 73° to 90°. The precipitation was much below normal.

March.—The month was nearly normal with regard to temperature and precipitation. The coldest weather occurred generally on the 5th, and the cool waves were more persistent over the western and northern districts. The only frost hurtful to vegetation occurred on the 1st and 5th over the extreme northern portion. The precipitation was irregularly distributed.

April.—As a whole the month was rather warm, and, except the heavy rain on a few days, dry. The temperature averaged several degrees above normal with a maximum of 97°, although there were no prolonged hot spells. Light frost formed on the 9th and 10th in the western district. The month's rain fell chiefly on seven days.

May.—Slightly cooler and, on an average, wetter than usual were the characteristics of the month. It began cool and continued so, to a large extent, until the third decade. The lowest temperatures occurred generally from the 2d to 4th, and the warmest during the last of the month, when the maximum was above 90°. The month's rain was fairly distributed, being heaviest in the central and southern counties.

June.—The precipitation was slightly deficient and the temperature nearly normal. As is usual the afternoon temperatures were frequently above 90°, and in several instances they exceeded 100°. There were no prolonged dry spells, however, thunderstorms mitigating the extreme heat to some extent. The rainfall was greatest over the west-central portions of the peninsula.

July.—The month was comparatively pleasant and much wetter than usual. The afternoon temperatures rarely exceeded 100°; the nights were never oppressive, the minimum temperature being generally below 70°. The precipitation ranged from less than 2 inches to more than 25 inches at several stations in the northern and central counties. The excess for the month was more than 4 inches.

August.—Slightly warmer and wetter than usual were the conditions that characterized the month as a whole. The hottest weather occurred generally from the 17th to 19th, inclusive, the intense insolation being such as to cause prostrations and some deaths; many draft horses fell dead in Pensacola. Showers were frequent and fairly well distributed, and locally heavy rains occurred over wide areas. There was no day without precipitation.

September.—The temperature averaged below normal and the month, as a whole, was unusually pleasant—due to several cool waves. During the last days of the month the temperature was from 6° to 11° below the normal over the northern and western counties, and frost formed in Washington county on the 29th—an incident of rare occurrence during September. The precipitation was much below normal, and it varied in character from light to locally heavy. High winds did some damage along the western coast on the 20th and 21st.

OCTOBER.—The month was noted for generally moderate temperature and heavy rains over small areas. Phenomenally low atmospheric pressure, attended by hurricane winds, prevailed over the extreme southern portion of the State during a hurricane on the 11th. The damage to the city of Key West and adjacent islands exceeded one million dollars. Fifteen or twenty lives were lost on the "keys" between Key West and Miami. Frost formed over the extreme northern and western portions during the first and second decades.

NOVEMBER.—The month was about 2° warmer than the average November. Most of the first and second decades were warm, a change to colder not taking place until the 17th, followed on the 18th and 19th by frost in the extreme northern counties and about freezing in the interior of western counties. The lowest temperatures occurred generally on the 19th, and from the 24th to 26th. The month was unusually dry; two stations received no precipitation, and a third had only a trace of rain.

DECEMBER.—The month was unusually cold and dry with about normal sunshine. Frosts were frequent, the persistent cold culminating in a severe cold wave on the 30th and 31st, with temperatures of 18° to 20° in the western and northern counties, 22° to 25° in central counties, and freezing to the lower portion of Dade county. The cold wave rivalled in severity the low temperature of previous years. The month's rainfall was less than the normal.

MONTHLY SUMMARY, 1909.

MONTH.	Temperature.				Precipitation		Average Number of Days.			
	State Average.	Departure from Normal.	Highest.	Lowest.	State Average.	Departure from Normal.	With .01 or More Rain.	Clear.	Partly Cloudy.	Cloudy.
January ..	62.4	+4.8	89	18	1.67	—1.36	4	17	9	5
February .	60.2	+0.5	90	18	1.86	—1.81	5	18	7	3
March	66.2	+0.2	92	30	2.96	—0.34	5	18	9	4
April	71.2	+2.1	97	35	2.75	+0.39	6	16	8	6
May	74.9	—1.1	99	40	4.13	+0.27	8	16	10	5
June	80.7	+0.8	102	56	6.28	—0.69	12	12	13	5
July	80.9	—0.4	102	60	11.25	+4.08	15	9	13	9
August ...	81.9	+0.6	103	65	7.50	+0.12	15	10	15	6
September	78.5	—0.6	98	42	4.09	—3.10	9	14	12	4
October ...	71.6	—0.5	96	34	1.93	—2.05	3	20	7	4
November .	66.5	+1.8	91	47	0.92	—1.29	4	21	7	2
December .	55.1	—3.6	88	16	2.71	—0.26	7	18	7	6

KILLING FROSTS.

STATIONS.	Last in Spring.	First in Autumn.
NORTHERN SECTION.		
Archer	Feb. 18	†Dec. 10
Cedar Keys	Feb. 1	Dec. 30
Federal Point	Feb. 4	Dec. 27
Fernandina	Feb. 1	Dec. 30
Gainesville	Feb. 3	†Dec. 10
Hilliard	Feb. 10	Nov. 24
Huntington	Feb. 1	Dec. 9
Jacksonville	Feb. 1	Dec. 10
Jasper	Feb. 26	Nov. 19
Johnstown	Feb. 26	Nov. 19
Lake City	Mar. 5	Dec. 10
Live Oak	Mar. 1	*
Macclenny	Mar. 5	Nov. 19
Middleburg	*	Dec. 10
St. Augustine	Feb. 1	Dec. 10
Satsuma Heights	Feb. 26	Dec. 10
Switzerland	Feb. 4	Dec. 10
CENTRAL SECTION—		
Bartow	Feb. 4	Dec. 15
Brooksville	Feb. 1	Dec. 27
Clermont	Feb. 1	Dec. 30
DeLand	Feb. 4	Dec. 10
Eustis	Feb. 1	Dec. 27
Fort Meade	Feb. 4	Dec. 10
Fort Pierce	Feb. 1	Dec. 27
Grasmere	†Feb. 1	Dec. 15
Inverness	Feb. 8	Dec. 27
Kissimmee	Feb. 1	Dec. 27
Malabar	Feb. 1	Dec. 27
Merritts Island	Feb. 1	Dec. 30
New Smyrna	Feb. 1	Dec. 30
Ocala	Feb. 26	Dec. 10
Orange City	Feb. 1	Dec. 10
Orlando	Feb. 5	Dec. 27

*Record Incomplete.

†Data incomplete, but this data probably correct.

KILLING FROSTS.—*Continued.*

STATIONS.	Last in Spring.	First in Autumn.
Plant City	Feb. 1	Dec. 27
Rockledge	Feb. 1	Dec. 31
Rockwell	*	No rec.
St. Leo	Feb. 1	Dec. 10
Tampa	Feb. 1	Dec. 30
Tarpon Springs	Feb. 1	Dec. 30
Titusville	†Feb. 1	Dec. 27
SOUTHERN SECTION—		
Arcadia	Feb. 5	Dec. 15
Avon Park	Feb. 1	Dec. 27
Fort Myers	....	Dec. 30
Hypoluxo	....	Dec. 27
Jupiter	....	Dec. 27
Key West	....	....
Manatee	Feb. 1	Dec. 10
Miami	....	Dec. 30
Sand Key	....	No rec.
WESTERN SECTION—		
Apalachicola	Feb. 1	Dec. 23
Blountstown	*	†Nov. 19
Bonifay	†Feb. 17	Nov. 19
Carrabelle	Feb. 26	*
DeFuniak Springs	Feb. 17	Dec. 9
Fenholloway	†Feb. 26	Nov. 19
Madison	Feb. 3	Dec. 10
Mariana	Feb. 26	No rec.
Molino	Feb. 17	Nov. 19
Monticello	Feb. 2	Dec. 10
Mount Pleasant	Feb. 28	Nov. 19
Newport	Feb. 26	Nov. 19
Pensacola	Jan. 8	Dec. 21
St. Andrew	Feb. 26	Nov. 19
Tallahassee	Feb. 2	Dec. 8
Wausau	Feb. 17	Nov. 18

*Record Incomplete.

†Data incomplete, but this data probably correct.

COMPARATIVE ANNUAL DATA FOR FLORIDA.

YEAR.	Temperature.			Precipitation.
	Mean.	Highest.	Lowest.	Average.
1892	70.4	101	22	47.99
1893	71.0	104	19	53.01
1894	71.2	101	12	52.51
1895	69.9	100	11	45.50
1896	71.0	103	20	49.62
1897	71.2	104	17	56.69
1898	70.5	102	17	48.36
1899	71.0	104	—2	53.93
1900	70.7	104	13	61.19
1901	68.8	107	12	58.47
1902	70.8	105	15	51.24
1903	69.8	105	17	55.79
1904	69.9	102	20	48.15
1905	70.5	103	10	61.43
1906	70.9	101	14	53.76
1907	71.5	102	21	49.15
1908	71.2	103	20	48.54
1909	71.1	103	16	49.52

Climatological Data for the Year 1909.

STATIONS.	COUNTIES.	Elevation, Feet.	Temperature in Degrees, Fahrenheit. Length of Record, Years.	Annual Mean.	Highest.	Date.	Lowest.	Date.
Northern Section.								
Archer	Alachua	92	25	......	......	......	19	December 31
Ceder Keys	Levy	10	12	71.6	93	June 15*	23	December 30
Federal Point	Putnam	5	17	70.6	100	June 13	22	December 30
Fernandina	Nassau	10	11	69.4	98	August 17*	19	December 30
Gainesville	Alachua	176	21	......	99	June 12*	19	December 30
Hilliard	Nassau	19	1	68.8	98	June 14*	17	December 30
Huntington	Putnam	56	13	......	......	......	19	December 31
Jacksonville	Duval	101	38	69.2	97	August 17	19	December 30
Jasper	Hamilton	152	9	......	......	......	......	......
Johnstown	Bradford	125	11	69.0	102	June 14	18	December 30
Lake City	Columbia	210	20	69.0	97	August 17*	16	December 30
Live Oak	Suwanee	109	5	......	......	......	17	December 30
Macclenny	Baker	125	13	68.0	97	August 17*	18	December 30*
Middleburg	Clay	10	8	......	......	......	18	December 30
St. Augustine	St. Johns	10	60	70.2	97	August 17	19	December 30
Satsuma Heights	Putnam	98	2	69.1	97	July 17*	19	December 31
Switzerland	St. Johns	10	13	69.3	95	August 17*	21	December 30

T—Amount too small to measure. * Also other dates. † Also November.

Climatological Data for the Year 1909—Continued.

STATIONS.	COUNTIES.	Precipitation in Inches.						Number of Rainy Days.	Sky.			Prevailing Direction of Wind.
		Length of Record, Years.	Total for the Year.	Greatest Monthly Amount.	Month.	Least Monthly Amount.	Month.		Number of Clear Days.	No. of Partly Cloudy Days.	No. of Cloudy Days.	
Northern Section.												
Archer	Alachua	25										
Cedar Keys	Levy	29	44.48	25.57	July	0.00	Oct. †	76				N. W.
Federal Point	Putnam	18	41.49	8.68	Aug.	0.66	Oct.	124	198	127	40	E.
Fernandina	Nassau	17	36.71	6.31	Sep.	0.20	Oct.	111	199	95	71	N. E.
Gainesville	Alachua	22										
Hilliard	Nassau	1	42.55	10.40	July	0.14	Dec.	83				
Huntington	Putnam	13										
Jacksonville	Duval	38	41.87	8.93	June	0.08	Oct.	125	138	161	66	N. E.
Jasper	Hamilton	11										N. E.
Johnstown	Bradford	13	38.47	10.04	July	0.26	Oct.	84				
Lake City	Columbia	26	49.68	15.05	July	0.26	Oct.	85	157	139	69	N. E.
Live Oak	Suwannee	14										
Macclenny	Baker	14										
Middleburg	Clay	9										
St. Augustine	St. Johns	42	39.33	8.04	July	0.80	Oct.	71	190	100	75	S. E.
Satsuma Heights	Putnam	2	34.90	9.05	July	0.28	Oct.	104				
Switzerland	St. Johns	18	49.69	9.04	July	0.19	Oct.	106				

T—Amount too small to measure. * Also other dates. † Also November.

Climatological Data for the Year 1909—Continued.

STATIONS.	COUNTIES.	Elevation, Feet.	Temperature in Degrees, Fahrenheit.					
			Length of Record, Years.	Annual Mean.	Highest.	Date.	Lowest.	Date.
Central Section.								
Bartew	Polk	115	14	72.4	98	May 29*	22	December 31
Brooksvile	Hernando	126	16	......	100	June 1*	22	December 30
Clermont	Lake	105	17	......	98	June 13	25	December 30
DeLand	Volusia	27	12	......	96	May 28	19	December 31
Eustis	Lake	56	19	72.0	99	June 13*	22	December 30*
Fort Meade	Polk	125	25	72.3	98	May 29	21	December 31
Fort Pierce	St. Lucie	6	17	73.7	98	August 18	28	December 30
Grasmere	Orange	175	13	......	97	June 2*	21	December 30
Inverness	Citrus	43	9	69.6	98	June 26	18	December 31
Kissimmee	Osceola	65	17	72.0	94	June 12*	24	December 31
Malabar	Brevard	24	8	73.7	101	August 19	24	December 31
Merritts Island	Brevard	20	27	73.3	96	August 19*	28	December 30
New Smyrna	Volusia	9	21	71.1	98	August 17	25	December 30
Ocala	Marion	98	21	71.0	100	June 1*	19	December 31
Orange City	Volusia	39	16	......	102	August 17	18	December 31
Orlando	Orange	111	18	71.9	96	June 18	21	December 31
Plant City	Hillsborough	121	16	71.8	98	May 18	22	December 31
Rockledge	Brevard	28	2	72.4	95	August 19*	29	January 31*
Rockwell	Marion	10	8	......	100	June 1	......	....
St. Leo	Pasco	140	14	71.5	96	June 1	22	December 31
Tampa	Hillsborough	79	20	72.0	94	May 29	26	December 31
Tarpon Springs	Hillsborough	20	25	71.8	96	June 2	23	December 31
Titusville	Brevard	6	15	......	......	....	14	December 30

T—Amount too small to measure. * Also other dates. † Also November.

Climatological Data for the Year 1909—Continued

STATIONS.	COUNTIES.	Precipitation in Inches.						Number of Rainy Days.	Sky.			Prevailing Direction of Wind.
		Length of Record, Years.	Total for the Year.	Greatest Monthly Amount.	Month.	Least Monthly Amount.	Month.		Number of Clear Days.	No. of Partly Cloudy Days.	No. of Cloudy Days.	
Central Section.												
Bartow	Polk	23	58.16	14.88	Aug.	0.79	Apr.	121	179	142	44	N. E.
Brooksville	Hernando	18	52.07	19.89	July	0.90	Oct.	69	.....	.....	.....	.....
Clermont	Lake	17	54.53	17.01	July	0.20	Oct.	77	120	223	22	N. E.
DeLand	Volusia	1	53.44	18.94	July	0.17	Oct.	103	.....	.....	.....	E.
Eustis	Lake	19	54.76	20.00	July	0.20	Oct.	89	.....	.....	.....	N. E.
Fort Meade	Polk	27	61.00	14.68	July	0.39	Nov.	110	198	99	68	N. E.
Fort Pierce	St. Lucie	14	53.21	9.49	July	0.17	Feb.	113	.....	.....	.....	S. E.
Grasmere	Orange	5	46.71	16.51	July	0.47	Oct.	116	.....	.....	.....	.....
Inverness	Citrus	9	.....	.....	.....	.....	.....	.....	.....	.....	.....	N. E.
Kissimmee	Osceola	18	46.60	11.28	July	0.63	Feb.	98	164	171	30	N. E.
Malabar	Brevard	8	40.27	7.34	July	0.43	Feb.	115	.....	.....	.....	E.
Merritts Island	Brevard	31	40.06	8.50	July	0.35	Feb.	83	.....	.....	.....	S. E.
New Smyrna	Volusia	26	50.13	15.32	July	0.47	Oct.	97	.....	.....	.....	.....
Ocala	Marion	19	41.03	10.62	July	T.	Oct.	84	174	144	47	.....
Orange City	Volusia	19	47.67	18.25	July	0.11	Oct.	77	.....	.....	.....	S. E.
Orlando	Orange	18	38.64	12.71	July	0.65	Nov.	90	119	149	97	E.
Plant City	Hillsborough	16	36.36	11.56	Aug.	0.52	Nov.	59	.....	.....	.....	.....
Rockledge	Brevard	2	33.11	7.15	Aug.	0.30	Feb.	69	252	80	33	N. E.
Rockwell	Marion	10	.....	26.00	July	0.00	Nov.	.....	.....	.....	.....	W.
St. Leo	Pasco	15	53.27	14.17	July	0.61	Nov.	120	167	128	75	W.
Tampa	Hillsborough	20	47.18	13.01	Aug.	0.44	Oct.	114	130	161	74	N. E.
Tarpon Springs	Hillsborough	17	61.78	18.10	June	0.23	Nov.	102	227	94	44	W.
Titusville	Brevard	18	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

T—Amount too small to measure.

* Also other dates.

† Also November.

Climatological Data for the Year 1909—Continued.

STATIONS.	COUNTIES.	Elevation, Feet.	Temperature in Degrees, Fahrenheit.							
			Length of Record, Years.	Annual Mean.	Highest.	Date.		Lowest.	Date.	
Southern Section.										
Arcadia	DeSoto	61	9	72.9	97	May	29*	22	December	31
Avon Park	DeSoto	150	12	73.2	97	May	29	25	December	31
Fort Myers	Lee	12	26	72.7	92	June	14*	31	December	31
Hypoluxo	Palm Beach	4	12	75.0	97	June	5*	31	December	27
Jupiter	Palm Beach	34	22	74.3	95	August	19	30	December	30
Key West	Monroe	14	39	76.6	91	August	11	47	February	1
Manatee	Manatee	8	26	72.4	98	June	11	29	December	31
Miami	Dade	5	13	76.1	96	August	19	33	December	30
Sand Key	Monroe	44	6	......	94	August	7	......	......	

T—Amount too small to measure. * Also other dates. † Also November.

Climatological Data for the Year 1909—Continued.

STATIONS.	COUNTIES.	Precipitation in Inches.						Number of Rainy Days.	Sky.			Prevailing Direction of Wind.
		Length of Record, Years.	Total for the Year.	Greatest Monthly Amount.	Month.	Least Monthly Amount.	Month.		Number of Clear Days.	No. of Partly Cloudy Days.	No. of Cloudy Days.	
Southern Section.												
Arcadia	DeSoto	9	48.64	11.75	Aug.	0.13	Nov.	125	193	95	77	E.
Avon Park	DeSoto	12	59.59	13.91	Aug.	0.37	Jan.	124	194	108	63	......
Fort Myers	Lee	43	51.55	14.59	Aug.	0.17	Mar.	89	......	......	......	E.
Hypoluxo	Palm Beach	15	72.74	18.16	Sep.	0.32	Nov.	135	202	114	49	S. E.
Jupiter	Palm Beach	22	53.28	8.61	May	0.41	Feb.	161	80	229	56	E.
Key West	Monroe	39	56.35	16.87	Oct.	0.06	Nov.	121	153	145	67	N. E.
Manatee	Manatee	26	55.30	14.26	June	0.56	Nov.	106	158	167	45	N. W.
Miami	Dade	24	76.78	21.08	Oct.	T.	Feb.	82	237	83	45	S. E.
Sana Key	Monroe	6	......	......	......	......	......	......	......	......	......	......

T—Amount too small to measure. * Also other dates. † Also November.

Climatological Data for the Year 1909—Continued.

STATIONS.	COUNTIES.	Elevation, Feet.	Length of Record, Years.	Temperature in Degrees, Fahrenheit. Annual Mean.	Highest.	Date.		Lowest.	Date.	
Western Section.										
Apalachicola	Franklin	24	6	69.1	99	August	17	22	February	1
Blountstown	Calhoun	.....	2	......	100	August	18	......	....	....
Bonifay	Holmes	111	8	68.2	99	August	17	17	December	30
Carrabelle	Franklin	10	11	......	97	August	17	18	December	30
DeFuniak Springs	Walton	193	13	......	100	August	19*	17	December	30
Fenholloway	Taylor	75	3	......	......	....	....	17	December	31
Madison	Madison	200	6	69.1	100	June	14	16	December	30
Marianna	Jackson	80	8	......	100	June	4*	......	....	....
Molino	Escambia	49	8	67.1	102	August	18	16	December	30
Monticello	Jefferson	207	5	68.6	99	June	1	18	December	30
Mt. Pleasant	Gadsden	260	4	......	......	....	....	......	....	....
Newport	Wakulla	.....	9	......	96	August	17*	18	December	31
Pensacola	Escambia	149	31	68.2	97	August	17	21	December	30
St. Andrew	Washington	14	12	68.3	97	August	18	20	December	30
Tallahassee	Leon	192	23	67.6	96	August	17	18	December	30
Wausau	Washington	250	10	......	103	August	18	16	December	30
Mean and extremes	....	.....	.....	71.1	103	August	18	16	December	30

T—Amount too small to measure. * Also other dates. † Also November.

Climatological Data for the Year 1909—Continued.

STATIONS.	COUNTIES.	Precipitation in Inches.						Number of Rainy Days.	Sky.			Prevailing Direction of Wind.
		Length of Record, Years.	Total for the Year.	Greatest Monthly Amount.	Month.	Least Monthly Amount.	Month.		Number of Clear Days.	No. of Partly Cloudy Days.	No. of Cloudy Days.	
Western Section.												
Apalachicola	Franklin	6	53.48	14.66	July	1.11	Jan.	69	.....	.....	.....	S. E.
Blountstown	Calhoun	2	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Bonifay	Holmes	8	.....	.....	.....	.....	.....	.....	.....	.....	.....	S.
Carrabelle	Franklin	13	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
DeFuniak Springs	Walton	13	56.81	9.88	Aug.	0.45	Nov.	96	.....	.....	.....	.....
Fenholloway	Taylor	3	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Madison	Madison	11	43.44	18.04	July	0.27	Nov.	103	101	111	153	S. W.
Marianna	Jackson	8	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Molino	Escambia	8	75.40	13.50	June	1.50	Jan.	.....	.....	.....	.....	S.
Monticello	Jefferson	8	47.07	9.39	June	0.45	Nov.	92	195	106	64	S. W.
Mt. Pleasant	Gadsden	4	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Newport	Wakulla	12	34.59	6.25	July	0.00	Oct.	36	.....	.....	.....	S. W.
Pensacola	Escambia	31	59.03	11.77	Aug.	0.88	Nov.	102	143	122	100	S. E.
St. Andrew	Washington	13	54.75	7.81	May	0.46	Nov.	100	272	65	28	W.
Tallahassee	Leon	25	42.17	6.03	Aug.	0.48	Nov.	101	174	102	89	S.
Wausau	Washington	13	46.94	7.45	Dec.	0.00	Oct.	62	167	140	58	S.
Mean and extremes.		....	49.52	26.00	July	0.00	Oct. †	97	174	128	63	N. E.

T—Amount too small to measure. * Also other dates. † Also November.

Manufactures

FOR THE

Year Ending Dec. 31, 1909

MANUFACTURES

FOR THE

Year Beginning Jan. 1, 1909, and Ending Dec. 31, 1909.

This schedule of the statistical report is necessarily for the calendar year 1909, as it is not practicable to divide the business year into two divisions, as in the case of the Agricultural statistics. There are a number of omissions in this report owing to the refusal of some persons to supply the information asked of them by the Enumerators. While there can be no valid reason for withholding such information from the Enumerators, because every intelligent man knows, and manufacturers are so informed by the Enumerators, that no private business will be exposed, that only aggregate quantities are wanted, still, there are many persons whose secretiveness and selfishness far outweigh their patriotism and regard for the welfare of their community; and the community in such instances has to suffer therefor. However, the splendid showing made in our manufacturing and industrial affairs is gratifying.

The information usually most sought after in connection with manufacturing and industrial work, is contained in the following tables, the heads of which clearly express the meaning of each.

No better advertisement of a State or County can be made than the publication of its industrial progress and development, and to those interested in such matters and who wish information as to the possibilities of investments in such lines of activity in this State, the statistics are well worth careful perusal.

We beg to direct attention to the classified tables by counties; the results, there disclosed are of unusual interest and show plainly the results of the past two years. A number of counties are specially noticeable for their progress and development in industrial work.

Table No. 1, shows the number of establishments reporting, capital invested, average number of wage earners and the total wages paid by counties.

Table No. 2, shows the average number of wage earners of specified ages, the amount of wages paid each, and the greatest and smallest number of each class employed during the year, the output of ores of the various mines of kaolin and phosphates, cost of material and value of all of the products of industry of the several counties.

Table No. 3, shows the products of ginneries of the State, pounds of cotton of both staples, and bushels of seed of both staples. The number of gins are found in the classified list by counties.

Table No. 4, shows the industries by counties, giving the numbers in each county, the aggregate amount of capital invested in each class, the average number of wage earners and their total wages; the average number of persons engaged in these industries, of specified ages. and wages paid them; the largest and smallest number engaged in each industry; the cost of manufacture, and the value of the products of each of the industries, by counties.

TABLE NO. 1.—Manufactures by Counties, Number of Establishments, Capital Invested, Average Number of Wage Earners and Total Wages Paid.

COUNTIES.	Number of Establishments Reporting.	Capital Invested (including lands, buildings, improvements, machinery, cash.)	Average Number Wage Earners.	Total Wages.
Total for the State........	3,778	$47,169,584	51,391	$20,846,102
Alachua	82	1,051,400	1,444	515,050
Baker	38	59,400	351	70,975
Bradford	109	532,525	1,079	343,290
Brevard	24	266,100	344	168,562
Calhoun	52	510,465	574	124,110
*Citrus	......	....	......	....
Clay	22	478,200	737	218,180
Columbia	44	678,350	537	178,358
Dade	104	715,150	1,055	559,400
DeSoto	104	1,251,775	1,577	371,925
Duval	1,098	10,059,475	11,197	7,552,361
Escambia	27	365,495	345	121,986
Franklin	43	8,712,250	1,521	484,324
*Gadsden	......	....	......	....
Hamilton	46	673,000	792	250,490
Hernando	16	339,200	402	142,590
Hillsborough	282	3,074,360	6,173	3,813,407
Holmes	102	872,744	988	294,158
Jackson	212	584,070	1,085	279,767
Jefferson	344	318,300	1,471	152,906
Lafayette	24	773,700	1,150	89,000
Lake	87	563,400	452	128,951
*Lee	......	....	......	....
Leon	53	490,690	733	147,000
Levy	68	1,675,033	2,186	481,995
Liberty	50	529,000	1,165	277,300
Madison	70	788,167	1,202	236,450
*Manatee	......	....	......	....
*Marion	......	....	......	....
*Monroe	......	....	......	....
*Nassau	......	....	......	....
Orange	34	789,300	636	161,045
*Osceola	......	....	......	....
*Palm Beach	......	....	......	....
*Pasco	......	....	......	....
Polk	17	168,700	401	50.997
*Putnam	......	....	......	....

*No Report.

TABLE NO. 1—Continued.—Manufactures by Counties, Number of Establishments, Capital Invested, Average Number of Wage Earners and Total Wages Paid.

COUNTIES.	Number of Establishments Reporting.	Capital Invested (including lands, buildings, improvements, machinery, cash.)	Average Number Wage Earners.	Total Wages.
Santa Rosa	84	$ 1,247,897	2,244	$ 617,444
St. Johns	110	1,781,360	1,257	566,259
St. Lucie	46	230,408	342	221,057
Sumter	46	221,500	256	38,025
Suwannee	77	2,468,600	1,088	283,450
Taylor	21	284,500	927	464,400
Volusia	99	818,680	1,251	315,700
Wakulla	16	34,850	364	107,400
Walton	61	1,843,615	1,782	634,080
Washington	66	1,924,925	2,233	383,710

*No Report.

TABLE NO. 2.—Average Number of Wage Earners of Specified Ages, Wages Paid and Greatest and Smallest Number Employed.

COUNTIES.	Men 16 Years and Over.		Women 16 Years and Over.	
	Average Number.	Wages.	Average Number.	Wages.
Total for State	48,580	$ 9,753,795	2,324	$ 965,591
Alachua	1,422	511,250	6	600
Baker	350	70,675	1	300
Bradford	1,071	341,200	3	1,080
Brevard	344	168,562		
Calhoun	574	124,110		
*Citrus				
Clay	737	218,180		
Columbia	581	177,483	2	620
Dade	959	510,000	97	48,900
DeSoto	1,516	366,750	1	200
Duval	9,786	7,039,389	1,411	512,972
Escambia	345	121,986		
Franklin	1,521	484,324		
*Gadsden				
Hamilton	792	250,490		
Hernando	402	142,590		
Hillsborough	5,585	3,443,827	677	367,172
Holmes	944	290,433		
Jackson	1,085	279,767		
Jefferson	1,466	152,606		
Lafayette	1,150	89,000		
Lake	452	128,951		
*Lee				
Leon	733	147,000		
Levy	2,111	471,695	62	7,740
Liberty	1,165	277,300		
Madison	1,192	236,150		
*Manatee				
*Marion				
*Monroe				
*Nassau				
Orange	618	157,245		
*Osceola				
*Palm Beach				
*Pasco				
Polk	401	50,997		

*No Report.

TABLE NO. 2—Continued.—Average Number of Wage Earners o. of Specified Ages, Wages Paid and Greatest and Smallest Number Employed.

COUNTIES.	Men 16 Years and Over.		Women 16 Years and Over.	
	Average Number.	Wages.	Average Number.	Wages.
*Putnam		$		$
Santa Rosa	2,194	613,694	3	1,257
St. Johns	1,207	543,019	50	23,250
St. Lucie	342	221,057		
Sumter	256	38,025		
Suwannee	1,088	283,450		
Taylor	697	405,800		
Volusia	1,250	315,200	1	500
Wakulla	267	78,400		
Walton	1,782	634,080		
Washington	2,195	369,110	10	1,000

*No Report.

TABLE NO. 2—Continued.—Average Number of Wage Earners of Specified Ages, Wages Paid and Greatest and Smallest Number Employed.

COUNTIES.	Children Under 16 Years.		Greatest Number Employed at Any One Time During Year in This Industry.	Least Number Employed at Any One Time During Year in This Industry.
	Average Number	Wages.		
Total for State	599	$ 118,583	64,397	36,632
Alachua	16	3,200	1,664	1,096
Baker			439	293
Bradford	5	1,010	1,314	858
Brevard			482	263
Calhoun			820	415
*Citrus				
Clay			782	594
Columbia	4	305	706	472
Dade	1	500	1,559	618
DeSoto	54	4,975	2,089	1,100
Duval			14,449	7,945
Escambia			439	246
Franklin			1,521	1,521
*Gadsden				
Hamilton			910	548
Hernando			515	315
Hillsborough	2	408	7,909	4,635
Holmes	44	3,825	1,475	589
Jackson			1,373	855
Jefferson	5	300	1,659	845
Lafayette			1,657	872
Lake			583	291
*Lee				
Leon			893	524
Levy	27	2,560	2,746	1,556
Liberty			1,333	744
Madison	10	800	1,469	921
*Manatee				
*Marion				
*Monroe				
*Nassau				
Orange	18	3,800	798	461
*Osceola				
*Palm Beach				
*Pasco				
Polk			418	161
*Putnam				

*No Report.

TABLE NO. 2—Continued.—Average Number of Wage Earners of Specified Ages, Wages Paid and Greatest and Smallest Number Employed.

COUNTIES.	Children Under 16 Years.		Greatest Number Employed at Any One Time During Year in This Industry.	Least Number Employed at Any One Time During Year in This Industry.
	Average Number	Wages.		
Santa Rosa	50	$ 3,750	2,473	1,729
St. Johns	.....	....	1,511	981
St. Lucie	.....	....	714	168
Sumter	.....	....	316	152
Suwannee	.....	....	1,408	694
Taylor	230	58,600	1,082	466
Volusia	8	1,450	1,572	822
Wakulla	97	29,000	394	220
Walton	.....	....	2,260	1,235
Washington	28	4,600	2,665	1,432

*No Report.

TABLE NO. 2—Continued.—Mines and Mining, Cost of Material and Value of Products.

COUNTIES.	Character of Ores Mined.			Cost of Production and Material used (including Mill or Mine Supplies and Fuel.)	Value of Work (including Custom Work and Repairing.)
	Tons Kaolin.	Tons Fullers' Earth.	Tons Phosphate.		
Total for State	......	......	149,000	$25,434,282	$53,074,905
Alachua	......	......	149,000	1,233,700	2,073,800
Baker	......	......	......	164,278	307,375
Bradford	......	......	......	453,605	1,026,865
Brevard	......	......	......	317,016	833,180
Calhoun	......	......	......	95,180	373,150
*Citrus	......	......	......	....	....
Clay	......	......	......	271,300	764,400
Columbia	......	......	......	182,370	523,911
Dade	......	......	......	318,500	1,011,106
DeSoto	......	......	......	574,090	1,823,530
Duval	......	......	......	23,961,813	41,888,911
Escambia	......	......	......	255,642	45,650
Franklin	......	......	......	3,101,300	5,901,900
*Gadsden	......	......	......	....	....
Hamilton	......	......	......	399,320	668,800
Hernando	......	......	......	220,530	425,700
Hillsborough	......	......	......	8,116,762	12,524,838
Holmes	......	......	......	706,154	1,051,952
Jackson	......	......	......	....	....
Jefferson	......	......	......	199,451	654,355
Lafayette	......	......	......	....	....
Lake	......	......	......	201,551	829,780
*Lee	......	......	......	....	....
Leon	......	......	......	....	....
Levy	......	......	......	599,525	1,804,860
Liberty	......	......	......	....	....
Madison	......	......	......	....	....
*Manatee	......	......	......	....	....
*Marion	......	......	......	....	....
*Monroe	......	......	......	....	....
*Nassau	......	......	......	....	....
Orange	......	......	......	314,104	662,450
*Osceola	......	......	......	....	....
*Palm Beach	......	......	......	....	....
*Pasco	......	......	......	....	....
Polk	......	......	......	....	....
*Putnam	......	......	......	....	....

*No Report.

TABLE NO. 2—Continued.—Mines and Mining, Cost of Material and Value of Products.

COUNTIES.	Character of Ores Mined.			Cost of Production and Material used (including Mill or Mine Supplies and Fuel.)	Value of Work (including Custom Work and Repairing.)
	Tons Kaolin.	Tons Fullers' Earth.	Tons Phosphate.		
Santa Rosa	......	......	......	$ 1,371,372	$ 1,810,907
St. Johns	......	......	......	....	....
St. Lucie	......	......	......	336,299	470,145
Sumter	......	......	......	....	....
Suwannee	......	......	......	823,510	1,267,800
Taylor	......	......	......	....	....
Volusia	......	......	......	454,450	817,900
Wakulla	......	......	......	....	....
Walton	......	......	......	....	....
Washington	......	......	......	754,460	4,017,140

*No Report.

TABLE NO. 3.—GINNERIES AND PRODUCTS, 1909-10.

COUNTIES.	Number of lbs of Lint of Upland Cotton Ginned at this Gin this Year.	Number of lbs of Lint of Sea Island Cotton Ginned at this Gin this Year.	Number Bushels Upland Cotton Seed.	Number Bushels Sea Island Cotton Seed.
Total for State	9,208,850	8,500,075	595,253	512,456
Alachua	....	656,020	....	55,280
Baker	9,966	342,000	400	21,000
Bradford	....	1,163,174	....	66,484
Brevard	....	....	....	....
Calhoun	280,500	2,100	17,156	150
*Citrus	....	....	....	....
Clay	....	....	....	....
Columbia	5,000	198,000	800	15,500
Dade	....	....	....	....
DeSoto	....	....	....	....
Duval	....	....	....	....
Escambia	467,944	....	27,358	....
Franklin	....	....	....	....
*Gadsden	....	....	....	....
Hamilton	....	1,393,480	....	83,308
Hernando	....	....	....	....
Hillsborough	....	....	....	....
Holmes	1,255,000	....	80,356	....
Jackson	4,034,980	9,000	307,170	1,500
Jefferson	1,374,300	71,000	100,025	3,840
Lafayette	....	....	....	....
Lake	....	....	....	....
*Lee	....	....	....	....
Leon	....	....	....	....
Levy	35,000	35,000	1,600	1,800
Liberty	....	....	....	....
Madison	1,409,710	2,585,951	39,378	163,394
*Manatee	....	....	....	....
*Marion	....	....	....	....
*Monroe	....	....	....	....
*Nassau	....	....	....	....
Orange	....	....	....	....
*Osceola	....	....	....	....
*Palm Beach	....	....	....	....
*Pasco	....	....	....	....
Polk	....	....	....	....
*Putnam	....	....	....	....
Santa Rosa	213,500	....	19,510	....
St. Johns	....	....	....	....
St. Lucie	....	....	....	....

*No Report.

TABLE NO. 3—Continued.—Ginneries and Products, 1909-10.

COUNTIES.	Number of lbs of Lint of Upland Cotton Ginned at this Gin this Year.	Number of lbs of Lint Sea Island Cotton Ginned at this Gin this Year.	Number Bushels Upland Cotton Seed.	Number Bushels Sea Island Cotton Seed.
Sumter	....	....	....	....
Suwannee	....	2,030,000	....	93,000
Taylor	....	14,400	....	7,200
Volusia	....	....	....	....
Wakulla	....	....	....	....
Walton	....	....	....	....
Washington	78,000	....	6,500	....

*No Report.

TABLE NO. 4.—SPECIFIED INDUSTRIES BY COUNTIES; AVERAGE NUMBER OF WAGE EARNERS; TOTAL WAGES PAID.

SPECIFIED INDUSTRIES BY COUNTIES.	Number of Establishments Reporting.	Capital Invested (including lands, buildings, improvements, machinery, cash.)	Average Number Wage Earners.	Total Wages.
ALACHUA—				
Total County	82	$ 1,051,400	1,444	$ 515,050
Saw mill products	16	85,500	235	117,850
Naval stores, turpentine and rosin	12	273,500	295	110,650
Ginneries and products	14	79,100	116	20,220
Blacksmithing, repair work and wagon manufacture	14	10,100	22	7,750
Mining, phosphate, etc.	16	530,000	645	198,100
Grist mill products	2	900	3	1,080
Ice manufacture	2	22,500	11	7,200
Bottling works	2	1,800	4	1,200
Crosstie and shingle manufacture	2	13,000	55	20,000
Miscellaneous single industries	2	35,000	58	31,000

TABLE NO. 4.—AVERAGE NUMBER WAGE EARNERS; SPECIFIED AGES; WAGES PAID. *Continued.*

SPECIFIED INDUSTRIES BY COUNTIES.	Men 16 Years and Over.		Women 16 Years and Over.		Children Under 16 Years.		Greatest No. Employed at Any One Time During Year in Industry.	Least No. Employed at Any One Time During the Year in Industry.
	Average Number.	Wages.	Average Number.	Wages.	Average Number.	Wages.		
ALACHUA—Continued.								
Total County	1,422	$ 511,250	6	$ 600	16	$3,200	1,664	1,096
Saw mill products	235	117,850	...	....	...	......	205	141
Naval stores, turpentine and rosin	295	110,650	...	....	...	......	341	254
Ginneries and products	106	19,420	6	600	4	200	140	94
Blacksmithing, repair work and wagon manufacture	22	7,750	...	....	...	......	30	21
Mining, phosphate, etc.	645	198,100	...	....	...	......	760	515
Grist mill products	3	1,080	...	....	...	......	3	3
Ice manufacture	11	7,200	...	....	...	......	16	9
Bottling works	4	1,200	...	....	...	......	5	3
Cross tie and shingle manufacture	25	20,000	...	....	...	......	70	35
Miscellaneous single industries	46	28,000	...	....	12	3,000	94	21

TABLE NO. 4.—COST OF MATERIAL USED; VALUE OF PRODUCTS.—*Continued.*

SPECIFIED INDUSTRIES BY COUNTIES.	Mines and Mining Products — Character of Ores Mined—Phosphate—Tons.	Cost of Material and Value of Products.		Ginneries and Products.			
		Cost of Production and Material Used (including Mill or Mine Supplies and Fuel.)	Value of Work (including Custom Work and Repairing.)	No. Lbs. Lint Upland Cotton ginned at this Gin this Year.	No. Lbs. Lint Sea Island Cotton ginned at this Gin this Year.	No. Bushels Upland Cotton Seed.	No. Bushels Sea Island Cotton Seed
ALACHUA.—Continued.							
Total County	159,000	$ 1,233,700	$ 2,073,800	....	656,050	......	55,280
Saw mill products	....	196,000	368,300	....	....	......	......
Naval stores, turpentine and rosin	....	260,000	365,000	....	....	......	......
Ginneries and products	....	....	....	....	656,050	......	55,280
Blacksmithing, repair work and wagon manufacture	....	21,000	39,000	....	....	......	......
Mining, phosphate, etc.	159,000	572,000	1,025,000	....	....	......	......
Grist mill products	....	2,500	5,000	....	....	......	......
Ice manufacture	....	50,000	83,500	....	....	......	......
Bottling works	....	2,200	5,500	....	....	......	......
Cross tie and shingle manufacture	....	60,000	90,000	....	....	......	......
Miscellaneous single industries ..	....	70,000	92,500	....	....	......	......

TABLE NO. 4—SPECIFIED INDUSTRIES BY COUNTIES; AVERAGE NUMBER OF WAGE EARNERS; TOTAL WAGES PAID.—*Continued.*

SPECIFIED INDUSTRIES BY COUNTIES.	Number of Establishments Reporting.	Capital Invested (including lands, buildings, improvements, machinery, cash.)	Average Number Wage Earners.	Total Wages.
BAKER—				
Total County	38	$ 59,400	351	$ 70,975
Saw Mill Products	7	$ 22,300	117	$ 32,225
Naval Stores, Turpentine and Resin	7	20,000	175	31,800
Ginneries and Products	5	10,700	32	2,100
Grist Mill Products	6	2,000	12	800
Blacksmithing	5	3,525	7	1,850
Cooperage	7	375	7	1,900
Miscellaneous Single Industries	1	500	1	300

TABLE NO. 4—AVERAGE NUMBER WAGE EARNERS; SPECIFIED AGES; WAGES PAID.

Continued.

SPECIFIED INDUSTRIES BY COUNTIES.	Men 16 Years and Over.		Women 16 Years and Over.		Children Under 16 Years.		Greatest No. Employed at Any One Time During Year in Industry.	Least No. Employed at Any One Time During the Year in Industry.
	Average Number.	Wages.	Average Number.	Wages.	Average Number.	Wages.		
BAKER.—Continued.								
Total County	350	$ 70,675	1	$ 300	...	$.....	439	293
Saw Mill Products	117	$ 32,225	...	$	...	......	136	98
Naval Stores, Turpentine and Resin	175	31,800	...	....	...	......	243	139
Ginneries and Products	32	2,100	...	....	...	......	33	31
Grist Mill Products	12	800	...	....	...	......	12	12
Blacksmithing	7	1,850	...	....	...	......	7	5
Cooperage	7	1,900	...	....	...	......	7	7
Miscellaneous Single Industries	.....	....	1	300	...	......	1	1

TABLE NO. 4—COST OF MATERIAL USED; VALUE OF PRODUCTS.—*Continued.*

SPECIFIED INDUSTRIES BY COUNTIES.	Mines and Mining Products — Character of Ores Mined—Phosphate—Tons.	Cost of Material and Value of Products.		Ginneries and Products.			
		Cost of Production and Material Used (including Mill or Mine Supplies and Fuel.)	Value of Work (including Custom Work and Repairing.)	No. Lbs. Lint Upland Cotton ginned at this Gin this Year.	No. Lbs. Lint Sea Island Cotton ginned at this Gin this Year.	No. Bushels Upland Cotton Seed.	No. Bushels Sea Island Cotton Seed
BAKER.—Continued.							
Total County	....	$ 164,278	$ 307,375	9,966	342,000	400	21,000
Sawmill products		$ 137,200	$ 216,400	....	....	......	......
Naval stores, turpentine and resin	....	18,900	71,000	....	....	......	......
Ginneries and products	....	2,300	7,650	9,966	342,000	400	21,000
Grist mill products	....	935	2,175	....	....	......	......
Blacksmithing	....	1,950	4,750	....	....	......	......
Cooperage	....	2,050	4,150	....	....	......	......
Miscellaneous single industries ..	....	650	1,250	....	....	......	......

TABLE NO. 4.—SPECIFIED INDUSTRIES BY COUNTIES; AVERAGE NUMBER OF WAGE EARNERS; TOTAL WAGES PAID.—*Continued.*

SPECIFIED INDUSTRIES BY COUNTIES.	Number of Establishments Reporting.	Capital Invested (including lands, buildings, improvements, machinery, cash.)	Average Number Wage Earners.	Total Wages.
BRADFORD—				
Total County	109	$ 532,525	1,079	$ 343,290
Saw mill products	23	208,850	309	134,180
Naval stores, turpentine and rosin	15	222,000	555	151,800
Ginneries and products	12	27,100	79	4,876
Blacksmithing and repairing	22	11,550	35	11,900
Grist mill products	8	4,950	9	1,334
Carpentering and contract building	8	1,600	17	8,500
Carriage and wagon building	3	6,000	7	4,260
Cooperage	4	1,150	4	850
Millinery and repairing	4	6,500	6	2,680
Shingle and planing mill products	3	26,350	45	19,050
Canneries and products	3	175	3	100
Wood works	2	300	2	300
Miscellaneous single industries	2	16,000	8	3,460

TABLE NO. 4.—AVERAGE NUMBER WAGE EARNERS; SPECIFIED AGES; WAGES PAID.

Continued.

SPECIFIED INDUSTRIES BY COUNTIES	Men 16 Years and Over.		Women 16 Years and Over.		Children Under 16 Years.		Greatest No. Employed at Any One Time During Year in Industry.	Least No. Employed at Any One Time During the Year in Industry.
	Average Number	Wages.	Average Number.	Wages.	Average Number.	Wages.		
BRADFORD.—Continued.								
Total County	1,071	$ 341,200	3	$ 1,080	5	$1,010	1,314	858
Saw mill products	309	134,180	...	....	...	......	429	222
Naval stores, turpentine and rosin	555	151,800	...	....	...	......	625	450
Ginneries and products	79	4,876	...	....	...	......	99	69
Blacksmithing and repairing	35	11,900	...	....	...	......	46	29
Grist mill products	9	1,334	...	....	...	......	11	9
Carpentering and contract building	17	8,500	...	....	...	......	19	15
Carriage and wagon building	7	4,260	...	....	...	......	9	6
Cooperage	4	850	...	....	...	......	4	4
Millinery and repairing	3	1,600	3	1,080	...	......	6	6
Shingle and planing mill products	40	18,040	...	....	5	1,010	50	35
Canneries and products	3	100	...	....	...	......	3	3
Wood works	2	300	...	....	...	......	2	2
Miscellaneous single industries	8	3,460	...	....	...	......	11	8

TABLE NO. 4.—COST OF MATERIAL USED; VALUE OF PRODUCTS.—*Continued.*

SPECIFIED INDUSTRIES BY COUNTIES.	Mines and Mining Products — Character of Ores Mined—Phosphate—Tons.	Cost of Material and Value of Products.		Ginneries and Products.			
		Cost of Production and Material Used (including Mill or Mine Supplies and Fuel.)	Value of Work (including Custom Work and Repairing.)	No. Lbs. Lint Upland Cotton ginned at this Gin this Year.	No. Lbs. Lint Sea Island Cotton ginned at this Gin this Year.	No. Bushels Upland Cotton Seed.	No. Bushels Sea Island Cotton Seed
BRADFORD.—Continued.							
Total County	....	$ 453,605	$ 1,026,865	....	1.163,174	......	66,484
Saw mill products	....	258,400	497,400	....	....	......	......
Naval stores, turpentine and rosin	....	67,500	289,600	....	....	......	......
Ginneries and products	....	9,700	31,885	....	1,163,174	......	66,484
Blacksmithing and repairing	....	10,360	33,300	....	....	......	......
Grist mill products	....	1,020	2,970	....	....	......	......
Carpentering and contract building	....	9,800	24,410	....	....	......	......
Carriage and wagon building	....	5,500	11,500	....	....	......	......
Cooperage	....	550	2,250	....	....	......	......
Millinery and repairing	....	6,600	10,600	....	....	......	......
Shingle and planing mill products	....	80,200	112,500	....	....	......	......
Canneries and products	....	175	750	....	....	......	......
Wood works	....	300	1,200	....	....	......	......
Miscellaneous single industries	....	3,500	8,500	....	....	......	......

TABLE NO. 4.—SPECIFIED INDUSTRIES BY COUNTIES; AVERAGE NUMBER OF WAGE EARNERS; TOTAL WAGES PAID.—*Continued.*

SPECIFIED INDUSTRES BY COUNTIES.	Number of Establishments Reporting.	Capital Invested (including lands, buildings, improvements, machinery, cash.)	Average Number Wage Earners.	Total Wages.
BREVARD—				
Total County	24	$ 266,100	344	$ 168,562
Naval stores, turpentine and rosin	3	40,000	90	42,500
Saw mill and novelty works, products all kinds	5	156,600	113	78,000
Fisheries and products	12	27,500	128	40,262
Ice manufacture	3	32,000	11	6,600
Miscellaneous single industries	1	10,000	2	1,200

TABLE NO. 4.—AVERAGE NUMBER WAGE EARNERS; SPECIFIED AGES; WAGES PAID.
Continued.

SPECIFIED INDUSTRIES BY COUNTIES.	Men 16 Years and Over.		Women 16 Years and Over.		Children Under 16 Years.		Greatest No. Employed at Any One Time During Year in Industry.	Least No. Employed at Any One Time During the Year in Industry.
	Average Number.	Wages.	Average Number.	Wages.	Average Number.	Wages.		
BREVARD.—Continued.								
Total County	344	$ 168,562	...	$	...	$.....	482	263
Naval stores, turpentine and rosin	90	42,500	...	....	...	......	125	80
Saw mill and novelty works products all kinds	113	78,000	...	....	...	......	148	85
Fisheries and products	128	40,262	...	....	...	......	181	85
Ice manufacture	11	6,600	...	....	...	......	26	11
Miscellaneous single industries	2	1,200	...	....	...	......	2	2

TABLE NO. 4.—COST OF MATERIAL USED; VALUE OF PRODUCTS.—*Continued.*

SPECIFIED INDUSTRIES BY COUNTIES.	Mines and Mining Products — Character of Ores Mined—Phosphate—Tons.	Cost of Material and Value of Products.		Ginneries and Products.			
		Cost of Production and Material Used (including Mill or Mine Supplies and Fuel.)	Value of Work (including Custom Work and Repairing.)	No. Lbs. Lint Upland Cotton ginned at this Gin this Year.	No. Lbs. Lint Sea Island Cotton ginned at this Gin this Year.	No. Bushels Upland Cotton Seed.	No. Bushels Sea Island Cotton Seed
BREVARD.—Continued.							
Total County	....	$ 317,016	$ 833,180	....	....	......	......
Naval stores, turpentine and rosin	....	14,500	69,000	....	....	......	......
Saw mill and novelty works products all kinds	....	182,500	372,550	....	....	......	......
Fisheries and products	....	50,816	254,080	....	....	......	......
Ice manufacture	....	62,000	121,100	....	....	......	......
Miscellaneous single industries	....	7,200	16,450	....	....	......	......

TABLE NO. 4—SPECIFIED INDUSTRIES BY COUNTIES; AVERAGE NUMBER OF WAGE EARNERS; TOTAL WAGES PAID.—*Continued.*

SPECIFIED INDUSTRIES BY COUNTIES.	Number of Establishments Reporting.	Capital Invested (including lands, buildings, improvements, machinery, cash.)	Average Number Wage Earners.	Total Wages.
CALHOUN—				
Total County	52	$ 510,465	574	$ 124,110
Combined sawmill and ginnery products	2	$ 4,900	10	$ 2,700
Sawmill products	7	18,000	28	6,550
Gristmill and ginnery products	7	5,370	9	710
Naval stores, turpentine and resin	24	480,000	512	111,275
General repair shops	7	1,075	7	750
Miscellaneous single industries	5	1,120	8	2,125

TABLE NO. 4—AVERAGE NUMBER WAGE EARNERS; SPECIFIED AGES; WAGES PAID.

Continued.

SPECIFIED INDUSTRIES BY COUNTIES.	Men 16 Years and Over.		Women 16 Years and Over.		Children Under 16 Years.		Greatest No. Employed at Any One Time During Year in Industry.	Least No. Employed at Any One Time During the Year in Industry.
	Average Number.	Wages.	Average Number.	Wages.	Average Number.	Wages.		
CALHOUN—Continued.								
Total County	574	$ 124,110	...	$	...	$.....	820	415
Combined sawmill and ginnery products	10	$ 2,700	...	$	...	$.....	$ 14	5
Sawmill products	28	6,550	...	....	...	......	49	14
Grist mill and ginnery products	9	710	...	....	...	......	11	8
Naval stores, turpentine and resin............	512	111,275	...	....	...	......	727	373
General repair shops	7	750	...	....	...	......	10	7
Miscellaneous single industries	8	2,125	...	....	...	......	9	8

TABLE NO. 4—COST OF MATERIAL USED; VALUE OF PRODUCTS.—*Continued.*

SPECIFIED INDUSTRIES BY COUNTIES.	Mines and Mining Products — Character of Ores Mined—Phosphate—Tons.	Cost of Material and Value of Products.		Ginneries and Products.			
		Cost of Production and Material Used (including Mill or Mine Supplies and Fuel.)	Value of Work (including Custom Work and Repairing.)	No. Lbs. Lint Upland Cotton ginned at this Gin this Year.	No. Lbs. Lint Sea Island Cotton ginned at this Gin this Year.	No. Bushels Upland Cotton Seed.	No. Bushels Sea Island Cotton Seed
CALHOUN—*Continued.*							
Total county	....	$ 95,180	$ 373,150	280,500	2,100	17,156	150
Combined sawmill and ginnery products	....	1,100	11,500	230,500	....	14,156	......
Saw mill products	....	8,050	21,700	....	....	......	......
Grist mill and ginnery products..	....	225	2,225	50,000	2,100	3,000	150
Naval stores, turpentine and resin	....	84,350	332,200	....	....	......	......
General repair shops	....	535	2,000	....	....	......	......
Miscellaneous single industries ..	....	920	3,525	....	....	......	......

TABLE NO. 4—SPECIFIED INDUSTRIES BY COUNTIES; AVERAGE NUMBER OF WAGE EARNERS; TOTAL WAGES PAID.—*Continued.*

SPECIFIED INDUSTRIES BY COUNTIES.	Number of Establishments Reporting.	Capital Invested (including lands, buildings, improvements, machinery, cash.)	Average Number Wage Earners.	Total Wages.
CLAY—				
Total County	22	$ 478,200	737	$ 218,180
Sawmill products	8	$ 191,600	243	$ 101,900
Naval stores, turpentine and resin	10	286,000	490	115,680
Blacksmithing and repairing	4	600	4	600

TABLE NO. 4—AVERAGE NUMBER WAGE EARNERS; SPECIFIED AGES; WAGES PAID.

Continued.

SPECIFIED INDUSTRIES BY COUNTIES.	Men 16 Years and Over.		Women 16 Years and Over.		Children Under 16 Years.		Greatest No. Employed at Any One Time During Year in Industry.	Least No. Employed at Any One Time During the Year in Industry.
	Average Number.	Wages.	Average Number.	Wages.	Average Number.	Wages.		
CLAY—Continued.								
Total county	737	$ 218,180	...	$	...	$.....	782	594
Sawmill products	243	$ 101,900	...	$	...	$.....	254	186
Naval stores, turpentine and resin	490	115,680	...	....	...	......	524	404
Blacksmithing and repairing	4	600	...	....	...	......	4	4

TABLE NO. 4—COST OF MATERIAL USED; VALUE OF PRODUCTS.—*Continued.*

SPECIFIED INDUSTRIES BY COUNTIES.	Mines and Mining Products — Character of Ores Mined—Phosphate—Tons.	Cost of Material and Value of Products.		Ginneries and Products.			
		Cost of Production and Material Used (including Mill or Mine Supplies and Fuel.)	Value of Work (including Custom Work and Repairing.)	No. Lbs. Lint Upland Cotton ginned at this Gin this Year.	No. Lbs. Lint Sea Island Cotton ginned at this Gin this Year.	No. Bushels Upland Cotton Seed.	No. Bushels Sea Island Cotton Seed
CLAY—Continued.							
Total county	....	$ 271,300	$ 767,400	....	....	......	......
Saw mill products	....	$ 170,600	$ 305,600	....	....	......	......
Naval stores, turpentine and rosin	....	100,000	459,900	....	....	......	......
Blacksmithing and repairing	....	700	1,900	....	....	......	......

TABLE NO. 4—SPECIFIED INDUSTRIES BY COUNTIES; AVERAGE NUMBER OF WAGE EARNERS; TOTAL WAGES PAID.—*Continued.*

SPECIFIED INDUSTRIES BY COUNTIES.	Number of Establishments Reporting.	Capital Invested (including lands, buildings, improvements, machinery, cash.)	Average Number Wage Earners.	Total Wages.
COLUMBIA—				
Total County	44	$ 678,350	587	$ 178,358
Sawmill products	7	$ 507,400	333	$ 105,300
Sawmill and ginnery products combined	4	7,650	17	2,600
Ginneries and products	8	25,200	53	10,691
Naval stores, turpentine and resin	7	69,500	118	38,588
Gristmill products	5	1,950	11	1,000
Shingle mill products	2	3,500	29	8,005
Blacksmith and machine shops	4	41,000	12	7,285
Jewelry and repair work	2	1,500	3	1,350
Bicycle repair shops	2	350	4	1,239
Miscellaneous single industries	3	20,300	7	2,300

TABLE NO. 4—AVERAGE NUMBER WAGE EARNERS; SPECIFIED AGES; WAGES PAID.
Continued.

SPECIFIED INDUSTRIES BY COUNTIES.	Men 16 Years and Over.		Women 16 Years and Over.		Children Under 16 Years.		Greatest No. Employed at Any One Time During Year in Industry.	Least No. Employed at Any One Time During the Year in Industry.
	Average Number.	Wages.	Average Number.	Wages.	Average Number.	Wages.		
COLUMBIA—Continued.								
Total county	581	$ 177,483	2	$ 620	4	$ 305	706	472
Sawmill products	333	$ 105,300	...	$	...	$.....	380	294
Sawmill and ginnery products combined	16	2,550	...	....	1	50	21	10
Ginneries and products	51	10,541	...	....	2	150	60	35
Naval stores, turpentine and resin	116	37,968	2	620	...	......	162	83
Grist mill products	11	1,000	...	....	...	......	11	8
Shingle mill products	29	8,005	...	....	...	......	32	18
Blacksmith and machine shops	12	7,285	...	....	...	......	21	12
Jewelry and repair work	3	1,350	...	....	...	......	3	2
Bicycle repair shops	3	1,184	...	....	1	105	4	3
Miscellaneous single industries	7	2,300	...	....	...	......	12	7

TABLE NO. 4—COST OF MATERIAL USED; VALUE OF PRODUCTS.—*Continued.*

SPECIFIED INDUSTRIES BY COUNTIES.	Mines and Mining Products — Character of Ores Mined—Phosphate—Tons.	Cost of Material and Value of Products.		Ginneries and Products.			
		Cost of Production and Material Used (including Mill or Mine Supplies and Fuel.)	Value of Work (including Custom Work and Repairing.)	No. Lbs. Lint Upland Cotton ginned at this Gin this Year.	No. Lbs. Lint Sea Island Cotton ginned at this Gin this Year.	No. Bushels Upland Cotton Seed.	No. Bushels Sea Island Cotton Seed
COLUMBIA—Continued.							
Total county	....	$ 182,370	$ 523,911	5,000	198,000	800	15,500
Sawmill products	....	$ 146,900	$ 382,800	....	....	......	......
Sawmill and ginnery products combined	....	1,600	3,900	5,000	100,000	800	4,350
Ginneries and products	....	3,350	10,991	....	98,000	......	11,150
Naval stores, turpentine and resin	....	15,300	66,625	....	....	......	......
Grist mill products	....	900	2,800	....	....	......	......
Shingle mill products	....	6,870	29,700	....	....	......	......
Blacksmith and machine shops	....	3,150	12,785	....	....	......	......
Jewelry and repair work	....	1,200	3,950	....	....	......	......
Bicycle repair shops	....	600	2,460	....	....	......	......
Miscellaneous single industries	....	2,500	7,900	....	....	......	......

TABLE NO. 4—SPECIFIED INDUSTRIES BY COUNTIES; AVERAGE NUMBER OF WAGE EARNERS; TOTAL WAGES PAID.—*Continued.*

SPECIFIED INDUSTRIES BY COUNTIES.	Number of Establishments Reporting.	Capital Invested (including lands, buildings, improvements, machinery, cash.)	Average Number Wage Earners.	Total Wages.
DADE—				
Total County	104	$ 715,150	1,055	$ 559,400
Sawmill manufactured products	4	$ 184,500	185	$ 31,000
Contracting, building and repairing	21	60,800	197	97,750
Fruit and vegetable crate manufacturing	34	76,000	385	253,600
Plumbing, tinning and repair work	9	13,900	37	24,000
Concrete manufacture	2	7,000	16	6,250
Bicycle repair works	8	16,050	12	5,800
Blacksmithing, wagon manufacturing and machine shops	3	23,000	18	14,500
Novelty and contractors suppply works	2	7,500	8	6,250
Barge, boat building and repairing	4	50,800	50	24,000

TABLE NO. 4.—SPECIFIED INDUSTRIES BY COUNTIES; AVERAGE NUMBER OF WAGE EARNERS; TOTAL WAGES PAID.—*Continued.*

SPECIFIED INDUSTRIES BY COUNTIES.	Number of Establishments Reporting.	Capital Invested (including lands, buildings, improvements, machinery, cash.)	Average Number Wage Earners.	Total Wages.
DADE.—Continued.				
Electric and gas lighting	2	$ 70,000	30	$ 25,500
Ice manufacture and storage plant	2	116,000	45	24,350
Cigar manufacture	4	12,000	23	16,600
Electric supply and repair works	2	4,800	8	6,000
Fruit preserve and jelly manufacture	2	1,500	5	2,500
Millinery and women's tailoring	2	300	4	1,800
Miscellaneous single industries	3	71,000	32	19,500

TABLE NO. 4—AVERAGE NUMBER WAGE EARNERS; SPECIFIED AGES; WAGES PAID.

Continued.

SPECIFIED INDUSTRIES BY COUNTIES.	Men 16 Years and Over.		Women 16 Years and Over.		Children Under 16 Years.		Greatest No. Employed at Any One Time During Year in Industry.	Least No. Employed at Any One Time During the Year in Industry.
	Average Number.	Wages.	Average Number.	Wages.	Average Number.	Wages.		
DADE—Continued.								
Total county	959	$ 510,000	97	$ 48,900	1	$ 500	1,559	618
Sawmill manufactured products	185	$ 31,000	...	$	...	$.....	232	106
Contracting, building and repairing	197	97,750	...	....	...	......	338	120
Fruit and vegetable crate manufacturing	304	211,500	83	42,600	...	......	555	183
Plumbing, tinning and repair work	37	24,000	...	....	...	......	46	37
Concrete manufacture	16	6,250	...	....	...	......	24	10
Bicycle repair works	12	5,800	...	....	...	......	19	9
Blacksmithing, wagon m'f'g and machine shops	18	14,500	...	....	...	......	25	15
Novelty and contractors supply works	8	6,250	...	....	...	......	14	6
Barge, boat building and repairing	48	23,000	2	1,000	...	......	53	17

TABLE NO. 4.—AVERAGE NUMBER WAGE EARNERS; SPECFIED AGES; WAGES PAID.

Continued.

SPECIFIED INDUSTRIES BY COUNTIES.	Men 16 Years and Over.		Women 16 Years and Over.		Children Under 16 Years.		Greatest No. Employed at Any One Time During Year in Industry.	Least No. Employed at Any One Time During the Year in Industry.
	Average Number.	Wages.	Average Number.	Wages.	Average Number.	Wages.		
DADE.—Continued.								
Electric and gas lighting	30	$ 25,000	...	$	...	$.....	85	25
Ice manufacture and cold storage	45	24,350	...	....	...	......	65	35
Cigar manufacture	23	16,600	...	....	...	......	32	13
Electric supply and repair work	8	6,000	...	....	...	......	11	7
Fruit preserve and jelly manufacture	2	1,000	3	1,500	...	......	5	5
Millinery and women's tailoring	.....	....	4	1,800	...	......	5	3
Miscellaneous single industries	26	17,000	5	2,000	1	500	50	27

TABLE NO. 4—COST OF MATERIAL USED; VALUE OF PRODUCTS.—*Continued.*

SPECIFIED INDUSTRIES BY COUNTIES.	Mines and Mining Products — Character of Ores Mined—Phosphate—Tons.	Cost of Material and Value of Products.		Ginneries and Products.			
		Cost of Production and Material Used (including Mill or Mine Supplies and Fuel.)	Value of Work (including Custom Work and Repairing.)	No. Lbs. Lint Upland Cotton ginned at this Gin this Year.	No. Lbs. Lint Sea Island Cotton ginned at this Gin this Year.	No. Bushels Upland Cotton Seed.	No. Bushels Sea Island Cotton Seed
DADE—Continued.							
Total county	....	$ 318,500	$ 1,011,106	....	....	......	......
Sawmill manufactured products.	....	$ 54,000	$ 106,357	....	....	......	......
Contracting, building and repairing	....	57,600	236,322	....	....	......	......
Fruit and vegetable crate m'f'g ..	....	67,000	247,927	....	....	......	......
Plumbing,tinning and repair work	....	15,000	51,050	....	....	......	......
Concrete manufacture	....	6,000	20,000	....	....	......	......
Bicycle repair works	....	2,500	9,500	....	....	......	......
Blacksmithing, wagon manufacturing and machine shops	....	12,000	37,000	....	....	......	......

TABLE NO. 4.—COST OF MATERIAL USED; VALUE OF PRODUCTS. —*Continued.*

SPECIFIED INDUSTRIES BY COUNTIES.	Mines and Mining Products — Character of Ores Mined—Phosphate—Tons.	Cost of Material and Value of Products.		Ginneries and Products.			
		Cost of Production and Material Used (including Mill or Mine Supplies and Fuel.)	Value of Work (including Custom Work and Repairing.)	No. Lbs. Lint Upland Cotton ginned at this Gin this Year.	No. Lbs. Lint Sea Island Cotton ginned at this Gin this Year.	No. Bushels Upland Cotton Seed.	No. Bushels Sea Island Cotton Seed
DADE.—Continued.							
Novelty and contractors supply works	....	$ 9,800	$ 17,050	....	....	......	......
Barge,boat building and repairing	....	18,000	67,800	....	....	......	......
Electric and gas lighting	....	12,000	48,500	....	....	......	......
Ice m'f'g and cold storage	....	12,100	31,250	....	....	......	......
Cigar manufacture	....	6,500	29,750	....	....	......	......
Electric supply and repair work	....	12,000	27,000	....	....	......	......
Fruit preserve and jelly m'f'g	....	2,400	6,500	....	....	......	......
Millinery and women's tailoring	....	2,100	4,900	....	....	......	......
Miscellaneous single industries	....	29,000	70,200	....	....	......	......

TABLE. NO. 4.—SPECIFIED INDUSTRIES BY COUNTIES; AVERAGE NUMBER OF WAGE EARNERS; TOTAL WAGES PAID.—*Continued.*

SPECIFIED INDUSTRIES BY COUNTIES.	Number of Establishments Reporting.	Capital Invested (including lands, buildings, improvements, machinery, cash.)	Average Number Wage Earners.	Total Wages.
DESOTO.—				
Total County	104	$ 1,251,775	1,577	$ 371,925
Saw mill products	19	190,600	307	54,150
Naval stores, turpentine and rosin	17	826,700	748	181,650
Farm irrigation and artesian water supply works	34	22,500	66	9,000
Stave manufacture and cooperage works	3	1,450	12	3,400
Well drilling and pumping works	4	2,775	7	2,800
Wood mills and general repair works	8	4,300	15	4,225
Blacksmithing and wagon manufacture	4	5,500	7	1,650
Planing mills, novelty works and crate manufacture	5	74,300	305	90,050
Boat building and repairing	2	30,500	26	7,500
Miscellaneous single industries	8	93,150	84	17,500

TABLE NO. 4.—AVERAGE NUMBER WAGE EARNERS; SPECIFIED AGES; WAGES PAID.

Continued.

SPECIFIED INDUSTRIES BY COUNTIES	Men 16 Years and Over.		Women 16 Years and Over.		Children Under 16 Years.		Greatest No. Employed at Any One Time During Year in Industry.	Least No. Employed at Any One Time During the Year in Industry.
	Average Number.	Wages.	Average Number.	Wages.	Average Number.	Wages.		
DESOTO.—Continued.								
Total County	1,516	$ 366,750	1	$ 200	54	$4,975	2,089	1,100
Saw mill products	306	53,950	...	....	1	200	462	193
Naval stores, turpentine and rosin............	710	179,000	...	....	32	2,650	937	565
Farm irrigation and artesian water supply works	65	8,875	...	....	1	125	117	47
Stave manufacture and cooperage works	12	3,400	...	....	...	......	17	8
Well drilling and pumping works............	7	2,800	...	....	...	......	11	5
Wood mills and general repair works	15	4,225	...	....	...	......	19	8
Blacksmithing and wagon manufacture	7	1,650	...	....	...	......	13	5
Planing mills, novelty works and crate mfg. ..	285	88,050	...	....	20	2,000	368	188
Boat building and repairing	26	7,500	...	....	...	......	38	19
Miscellaneous single industries	83	17,300	1	200	...	......	107	62

TABLE NO. 4.—COST OF MATERIAL USED; VALUE OF PRODUCTS.—*Continued.*

SPECIFIED INDUSTRIES BY COUNTIES.	Mines and Mining Products — Character of Ores Mined—Phosphate—Tons.	Cost of Material and Value of Products.		Ginneries and Products.			
		Cost of Production and Material Used (including Mill or Mine Supplies and Fuel.)	Value of Work (including Custom Work and Repairing.)	No. Lbs. Lint Upland Cotton ginned at this Gin this Year.	No. Lbs. Lint Sea Island Cotton ginned at this Gin this Year.	No. Bushels Upland Cotton Seed.	No. Bushels Sea Island Cotton Seed
DESOTO.—Continued.							
Total County	....	$ 574,090	$ 1,823,530	....	....	......	......
Saw mill products	....	146,050	449,450	....	....	......	......
Naval stores, turpentine and rosin							
Farm irrigation and artesian wa-	....	264,750	958,750	....	....	......	......
ter supply works	....	4,405	18,680	....	....	......	......
Stave m'f'ture & cooperage works.	....	2,535	8,400	....	....	......	......
Well drilling and pumping works	....	3,000	9,900	....	....	......	......
Wood mills & gen'l. repair works.	....	4,900	11,600	....	....	......	......
Blacksmithing & wagon m'facture.							
Planing mills, novelty works and	....	1,850	6,250	....	....	......	......
crate manufacture	....	104,900	249,000	....	....	......	......
Boat building and repairing	....	12,000	34,800	....	....	......	......
Miscellaneous single industries ..	....	29,700	76,700	....	....	......	......

TABLE NO. 4.—SPECIFIED INDUSTRIES BY COUNTIES; AVERAGE NUMBER OF WAGE EARNERS; TOTAL WAGES PAID.—*Continued.*

SPECIFIED INDUSTRIES BY COUNTIES.	Number of Establishments Reporting.	Capital Invested (including lands, buildings, improvements, machinery, cash.)	Average Number Wage Earners.	Total Wages.
DUVAL—				
Total County	1,098	$ 10,059,475	11,197	$ 7,552,361
Monuments, tombstones and marble works	3	37,000	25	22,500
Dress making	155	30,260	484	152,700
Blacksmithing and horseshoeing	50	20,150	161	123,000
Cleaning and pressing	57	19,400	226	91,950
Paint manufacturing	1	40,000	15	18,000
Cider and vinegar manufacturing	1	1,500	8	5,300
Sign painting	7	3,200	23	27,300
Shoe manufacturing	3	19,000	18	13,500
Corset manufacturing	1	1,500	2	3,280
Gunsmiths	1	500	1	1,200

TABLE NO. 4.—SPECIFIED INDUSTRIES BY COUNTIES; AVERAGE NUMBER OF WAGE EARNERS; TOTAL WAGES PAID.—*Continued.*

SPECIFIED INDUSTRIES BY COUNTIES.	Number of Establishments Reporting.	Capital Invested (including lands, buildings, improvements, machinery, cash.)	Average Number Wage Earners.	Total Wages.
DUVAL.—Continued.				
Box, baskets and crates	1	$ 100,000	180	$ 72,000
Dock building	3	12,000	55	32,800
Razor grinding	1	3.000	1	2,000
House moving	1	2,000	15	5,520
Ladies' tailoring	2	750	3	1,800
Machines and patterns	1	25,000	30	18,000
Ship building and repairs	1	350,000	400	212,000
Cracker manufacturing	1	80,000	100	24,000
Chair manufacturing	1	25.000	12	6,240
Bed spring manufacturing	1	25.000	30	15,000
Bag manufacturing	1	50,000	50	12.000

TABLE NO. 4.—SPECIFIED INDUSTRIES BY COUNTIES; AVERAGE NUMBER OF WAGE EARNERS; TOTAL WAGES PAID.—*Continued.*

SPECIFIED INDUSTRIES BY COUNTIES.	Number of Establishments Reporting.	Capital Invested (including lands, buildings, improvements, machinery, cash.)	Average Number Wage Earners.	Total Wages.
DUVAL.—Continued.				
Baking powders manufacturing	1	$ 3,500	7	$ 7,000
Ornamental iron manufacturing	1	12,000	25	15,000
Umbrella manufacturing and repairs	1	200	2	1,150
Electric theaters and moving pictures	11	19,000	68	48,360
Cabinet and repair shops	18	18,600	80	72,000
Ruber stamps and seals	3	2,000	4	4,000
Shoe repair work	50	10,200	136	61,200
Tailor repair work	75	52,200	242	139,776
Ice cream manufacturing	2	38,000	26	15,384
Ice manufacturing	2	465,000	124	67,280
Steam Laundries	10	522,000	420	153,036

TABLE NO. 4.—SPECIFIED INDUSTRIES BY COUNTIES; AVERAGE NUMBER OF WAGE EARNERS; TOTAL WAGES PAID.—*Continued.*

SPECIFIED INDUSTRIES BY COUNTIES.	Number of Establishments Reporting.	Capital Invested (including lands, buildings, improvements, machinery, cash.)	Average Number Wage Earners.	Total Wages.
DUVAL.—Continued.				
Ladies' tailor repair work	4	$ 9,500	56	$ 35,020
Hand laundries	38	12,050	239	77,832
Millinery	36	145,100	133	103,740
Opticians	9	25,000	16	20,020
Jewelry and watch repairs	24	13,150	49	57,240
Hat manufacturing, cleaning and repairs	2	11,000	17	10,380
Coffee roasters	3	315,000	30	22,260
Tinners	16	26,000	67	80,400
Plumbing	15	152,000	177	265,500
Perfumery manufacturing	1	2,000	1	2,000
Dye works	5	6,000	19	17,100

TABLE NO. 4.—SPECIFIED INDUSTRIES BY COUNTIES; AVERAGE NUMBER OF WAGE EARNERS; TOTAL WAGES PAID.—*Continued.*

SPECIFIED INDUSTRIES BY COUNTIES.	Number of Establishments Reporting.	Capital Invested (including lands, buildings, improvements, machinery, cash.)	Average Number Wage Earners.	Total Wages.
DUVAL.—Continued.				
Painting and paper hanging	22	$ 63,900	149	$ 134,100
Photographers	15	21,500	41	36,900
Locksmiths	3	2,500	7	8,400
Iron and brass foundries	2	40,000	38	45,600
Asphalt roofing	1	5,000	15	6,260
Bicycle repairs	30	25.000	99	59,400
Extracts and patent medicines	8	46.000	33	39,600
Bakeries	24	68,000	104	81,120
Machinists and repairs	7	218,000	183	274,500
Furniture repairs	9	7,000	16	14,400
Gas fitting	3	2,000	6	7,200

TABLE NO. 4.—SPECIFIED INDUSTRIES BY COUNTIES; AVERAGE NUMBER OF WAGE EARNERS; TOTAL WAGES PAID.—*Continued.*

SPECIFIED INDUSTRIES BY COUNTIES.	Number of Establishments Reporting.	Capital Invested (including lands, buildings, improvements, machinery, cash.)	Average Number Wage Earners.	Total Wages.
DUVAL.—Continued.				
Job printing, book binding	21	$ 182,500	177	$ 165,760
Bottling works	10	59,500	75	39,000
Musical instrument repairs	9	5,500	19	22,800
Boat building and repairs	8	11,000	30	36,000
Gas manufacturing	2	500,000	110	85,800
Upholstering	14	5,750	25	22,500
Carriage and wagon works	5	61,000	69	65,384
Wood yards	24	34,100	168	69,888
Paving	5	....	....	....
Electric lighting	1	....	....	....
Water works	3	....	....	....

TABLE NO. 4.—SPECIFIED INDUSTRIES BY COUNTIES; AVERAGE NUMBER OF WAGE EARNERS; TOTAL WAGES PAID.—*Continued.*

SPECIFIED INDUSTRIES BY COUNTIES.	Number of Establishments Reporting.	Capital Invested (including lands, buildings, improvements, machinery, cash.)	Average Number Wage Earners.	Total Wages.
DUVAL.—Continued.				
Electric railways	1	$	....	$ ....
Composition capitals, trimmings etc	1	10,000	20	18,720
Cooperage	3	75,000	80	74,880
Harness making and repairs	5	9,000	14	12,904
Florists	6	127,000	46	37,100
Picture frames	4	7,000	11	8,580
Window and door frames	2	7,000	14	13,104
Window screens	2	2,000	8	7,488
Vulcanizing	4	5,500	16	14,976
Stair building	1	4,000	10	10,910
Auto repairs	11	2,800	40	37,440

TABLE NO. 4.—SPECIFIED INDUSTRIES BY COUNTIES; AVERAGE NUMBER OF WAGE EARNERS; TOTAL WAGES PAID.—*Continued.*

SPECIFIED INDUSTRIES BY COUNTIES.	Number of Establishments Reporting.	Capital Invested (including lands, buildings, improvements, machinery, cash.)	Average Number Wage Earners.	Total Wages.
DUVAL.—Continued.				
Contracting builders	94	$ 200,000	2,169	$ 1,952,100
Engraving and electrotyping	1	4,000	8	7,800
Steam fitting	3	2,500	10	15,600
Awnings	4	3,000	12	15,456
Broom manufacturing	2	45,000	22	16,800
Turning and scroll sawing	4	4,000	8	9,600
Fibre manufacturing	1	30,000	20	12,000
Tallow manufacturing	1	10,000	10	6,000
Tile manufacturing	5	19,000	23	34,500
Electrical contractors	5	185,000	76	91,200
Sidewalk manufacturing	3	25,000	23	27,600

TABLE NO. 4.—SPECIFIED INDUSTRIES BY COUNTIES; AVERAGE NUMBER OF WAGE EARNERS; TOTAL WAGES PAID.—*Continued.*

SPECIFIED INDUSTRIES BY COUNTIES.	Number of Establishments Reporting.	Capital Invested (including lands, buildings, improvements, machinery, cash.)	Average Number Wage Earners.	Total Wages.
DUVAL.—Continued.				
Saw and planing mills	28	$ 2,349,465	1,272	$ 683,214
Fertilizer manufacturing	6	1,800,000	757	332,760
Cigar manufacturing	19	146,500	382	290,032
Newspapers	8	428,000	278	177,084
Vulcanizing	4	3,600	20	11,232
Candy manufacturing	6	110,000	115	52,728
Brick manufacturing	5	270,000	190	84,500
Artificial stone	4	42,000	62	46,700
Naval stores	9	270,000	340	98,973

TABLE NO. 4.—AVERAGE NUMBER WAGE EARNERS; SPECIFIED AGES; WAGES PAID.
Continued.

SPECIFIED INDUSTRIES BY COUNTIES	Men 16 Years and Over.		Women 16 Years and Over.		Children Under 16 Years.		Greatest No. Employed at Any One Time During Year in Industry.	Least No. Employed at Any One Time During the Year in Industry.
	Average Number.	Wages.	Average Number.	Wages.	Average Number.	Wages.		
DUVAL.—Continued. Total County	9,786	$7,039,389	1,411	$ 512,972	...	$.....	14,449	7,945
Monuments, tombstones and marble works	25	22,500	.....	....	...	......	35	15
Dress making	.....	....	484	152,700	...	......	702	266
Blacksmith and horseshoeing	161	123,000	.....	....	...	......	197	125
Cleaning and pressing	160	72,150	66	19,800	...	......	287	165
Paint manufacturing	15	18,000	.....	....	...	......	20	10
Cider and vinegar manufacturing	8	5,300	.....	....	...	......	12	4
Sign painting	23	27,300	.....	....	...	......	30	16
Shoe manufacturing	18	13,500	.....	....	...	......	24	12
Corset manufacturing	.....	....	2	3,280	...	......	3	1
Gunsmiths	1	1,200	.....	....	...	......	1	1

TABLE NO. 4.—AVERAGE NUMBER WAGE EARNERS; SPECIFIED AGES; WAGES PAID.

Continued.

SPECIFIED INDUSTRIES BY COUNTIES	Men 16 Years and Over.		Women 16 Years and Over.		Children Under 16 Years.		Greatest No. Employed at Any One Time During Year in Industry.	Least No. Employed at Any One Time During the Year in Industry.
	Average Number.	Wages.	Average Number.	Wages.	Average Number.	Wages.		
DUVAL.—Continued.								
Box, baskets and crates	180	$ 72,000	.....	$	...	$.....	200	160
Dock building	55	32,800	.....	....	...	......	80	30
Razor grinding	1	2,000	.....	....	...	......	1	1
House moving	15	5,520	.....	....	...	......	25	5
Ladies' tailoring	3	1,300	.....	....	...	......	4	2
Machines and patterns	30	18,000	.....	....	...	......	40	20
Ship building and repairs	400	212,000	.....	....	...	......	550	250
Cracker manufacturing	40	14,000	60	10,000	...	......	125	75
Chair manufacturing	12	6,240	.....	....	...	......	14	10
Bed spring manufacturing	30	15,000	.....	....	...	......	40	20
Bag manufacturing	25	8,500	25	3,500	...	......	60	40

TABLE NO. 4.—AVERAGE NUMBER WAGE EARNERS; SPECIFIED AGES; WAGES PAID.
Continued.

SPECIFIED INDUSTRIES BY COUNTIES	Men 16 Years and Over.		Women 16 Years and Over.		Children Under 16 Years.		Greatest No. Employed at Any One Time During Year in Industry.	Least No. Employed at Any One Time During the Year in Industry.
	Average Number.	Wages.	Average Number.	Wages.	Average Number.	Wages.		
DUVAL.—Continued.								
Baking powders manufacturing	7	$ 7,000	.....	$	...	$.....	8	6
Ornamental iron manufacturing	25	15,000	.....	....	...	......	30	20
Umbrella manufacturing & repairs	1	800	1	350	...	......	3	1
Electric theaters and moving pictures	56	43,980	12	4,380	...	......	81	55
Cabinet and repair shops	80	72,000	.....	....	...	......	112	48
Ruber stamps and seals	4	4,000	.....	....	...	......	5	3
Shoe repair work	136	61,200	.....	....	...	......	195	77
Tailor repair work	194	121,056	48	18,720	...	......	341	143
Ice cream manufacturing	26	15,384	.....	....	...	......	36	16
Ice manufacturing	124	67,280	.....	....	...	......	146	102
Steam laundries	141	65,988	279	87,048	...	......	543	297

TABLE NO. 4.—AVERAGE NUMBER WAGE EARNERS; SPECIFIED AGES; WAGES PAID.
Continued.

SPECIFIED INDUSTRIES BY COUNTIES	Men 16 Years and Over.		Women 16 Years and Over.		Children Under 16 Years.		Greatest No. Employed at Any One Time During Year in Industry.	Least No. Employed at Any One Time During the Year in Industry.
	Average Number.	Wages.	Average Number.	Wages.	Average Number.	Wages.		
DUVAL.—Continued.								
Ladies' tailor repair work	21	$ 16,380	35	$ 18,640	...	$.....	73	39
Hand laundries	125	45,000	114	32,832	...	......	321	157
Millinery	.....	....	133	103,740	...	......	178	88
Opticians	16	20,020	.....	....	...	......	22	10
Jewelry and watch repairs	49	57,240	.....	....	...	......	62	36
Hat manufacturing, cleaning and repairs	11	8,580	6	1,800	...	......	22	12
Coffee roasters	30	22,260	.....	....	...	......	42	18
Tinners	67	80,400	.....	....	...	......	88	46
Plumbing	177	265,500	.....	....	...	......	241	113
Perfumery manufacturing	1	2,000	.....	....	...	......	1	1
Dye works	19	17,100	.....	....	...	......	24	14

TABLE NO. 4.—AVERAGE NUMBER WAGE EARNERS; SPECIFIED AGES; WAGES PAID.
Continued.

SPECIFIED INDUSTRIES BY COUNTIES	Men 16 Years and Over.		Women 16 Years and Over.		Children Under 16 Years.		Greatest No. Employed at Any One Time During Year in Industry.	Least No. Employed at Any One Time During the Year in Industry.
	Average Number.	Wages.	Average Number.	Wages.	Average Number.	Wages.		
DUVAL.—Continued.								
Painting and paper hanging	149	$ 134,100	....	$	...	$.....	191	107
Photographers	41	36,900	....	....	...	......	60	22
Locksmiths	7	8,400	....	....	...	......	10	4
Iron and brass foundries	38	45,600	....	....	...	......	45	31
Asphalt roofing	15	6,260	....	....	...	......	20	10
Bicycle repairs	99	59,400	....	....	...	......	119	79
Extracts and patent medicines	33	39,600	....	....	...	......	43	23
Bakeries	104	81,120	....	....	...	......	135	73
Machinists and repairs	183	274,500	....	....	...	......	250	116
Furniture repairs	16	14,400	....	....	...	......	22	10
Gas fitting	6	7,200	....	....	...	......	9	3

TABLE NO. 4.—AVERAGE NUMBER WAGE EARNERS; SPECIFIED AGES; WAGES PAID.
Continued.

SPECIFIED INDUSTRIES BY COUNTIES	Men 16 Years and Over.		Women 16 Years and Over.		Children Under 16 Years.		Greatest No. Employed at Any One Time During Year in Industry.	Least No. Employed at Any One Time During the Year in Industry.
	Average Number.	Wages.	Average Number.	Wages.	Average Number.	Wages.		
DUVAL.—Continued.								
Job printing, book binding	147	$ 155,312	30	$ 10,448	...	$.....	231	123
Bottling works	75	39,000	.....	....	...	......	95	55
Musical instrument repairs	19	22,800	.....	....	...	......	28	10
Boat building and repairs	30	36,000	.....	....	...	......	38	22
Gas manufacturing	110	85,800	.....	....	...	......	140	80
Upholstering	25	22,500	.....	....	...	......	35	15
Carriage and wagon works	69	65,384	.....	....	...	......	87	51
Wood yards	168	69,888	.....	....	...	......	216	120
Paving	.....	....	.....	....	...	......	......	.....
Electric lighting	.....	....	.....	....	...	......	......	.....
Water works	.....	....	.....	....	...	......	......	.....

TABLE NO. 4.—AVERAGE NUMBER WAGE EARNERS; SPECIFIED AGES; WAGES PAID.
Continued.

SPECIFIED INDUSTRIES BY COUNTIES	Men 16 Years and Over.		Women 16 Years and Over.		Children Under 16 Years.		Greatest No. Employed at Any One Time During Year in Industry.	Least No. Employed at Any One Time During the Year in Industry.
	Average Number.	Wages.	Average Number.	Wages.	Average Number.	Wages.		
DUVAL.—Continued.								
Electric railways	.....	$........	.....	$	...	$.....	......	.....
Composition capitals, trimmings etc.	20	18,700	.....	....	...	......	26	14
Cooperage	80	74,880	.....	....	...	......	100	60
Harness making and repairs	14	12,904	.....	....	...	......	19	9
Florists	46	37,100	.....	....	...	......	64	28
Picture frames	11	8,580	.....	....	...	......	15	7
Window and door frames	14	13,104	.....	....	...	......	18	10
Window screens	8	7,488	.....	....	...	......	10	6
Vulcanizing	16	14,976	.....	....	...	......	20	12
Stair Building	10	10,910	.....	....	...	......	12	8
Auto repairs	40	37,440	.....	....	...	......	54	26

TABLE NO. 4.—AVERAGE NUMBER WAGE EARNERS; SPECIFIED AGES; WAGES PAID.

Continued.

SPECIFIED INDUSTRIES BY COUNTIES	Men 16 Years and Over.		Women 16 Years and Over.		Children Under 16 Years.		Greatest No. Employed at Any One Time During Year in Industry.	Least No. Employed at Any One Time During the Year in Industry.
	Average Number.	Wages.	Average Number.	Wages.	Average Number.	Wages.		
DUVAL.—Continued.								
Contracting builders	2,169	$1,952,100	....	$	...	$.....	2,892	1,446
Engraving and electrotyping	8	7,800	....	....	...	......	9	7
Steam fitting	10	15,600	....	....	...	......	15	5
Awnings	12	15,456	....	....	...	......	16	8
Broom manufacturing	22	16,800	....	....	...	......	27	17
Turning and scroll sawing	8	9,600	....	....	...	......	11	5
Fibre manufacturing	20	12,000	....	....	...	......	25	15
Tallow manufacturing	10	6,000	....	....	...	......	12	8
Tile manufacturing	23	34,500	....	....	...	......	31	15
Electrical contractors	76	91,200	....	....	...	......	91	61
Sidewalk manufacturing	23	27,600	....	....	...	......	29	17

TABLE NO. 4.—AVERAGE NUMBER WAGE EARNERS; SPECIFIED AGES; WAGES PAID.
Continued.

SPECIFIED INDUSTRIES BY COUNTIES	Men 16 Years and Over.		Women 16 Years and Over.		Children Under 16 Years.		Greatest No. Employed at Any One Time During Year in Industry.	Least No. Employed at Any One Time During the Year in Industry.
	Average Number.	Wages.	Average Number.	Wages.	Average Number.	Wages.		
DUVAL.—Continued.								
Saw and planing mills	1,272	$ 683,214	.....	$	...	$.....	1,536	1,008
Fertilizer manufacturing	757	332.760	.....	....	...	......	899	615
Cigar manufacturing	337	270,532	45	19,500	...	......	531	233
Newspapers	268	169,882	10	7,202	...	......	302	254
Vulcanizing	20	11,232	.....	....	...	......	24	16
Candy manufacturing	54	33,696	61	19,032	...	......	138	92
Brick manufacturing	190	84,500	.....	....	...	......	230	150
Artificial stone	62	46,700	.....	....	...	......	75	49
Naval stores	340	98.973	.....	....	...	......	420	260

TABLE NO. 4.—COST OF MATERIAL USED; VALUE OF PRODUCTS.—*Continued.*

SPECIFIED INDUSTRIES BY COUNTIES.	Mines and Mining Products — Character of Ores Mined—Phosphate—Tons.	Cost of Material and Value of Products.		Ginneries and Products.			
		Cost of Production and Material Used (including Mill or Mine Supplies and Fuel.)	Value of Work (including Custom Work and Repairing.)	No. Lbs. Lint Upland Cotton ginned at this Gin this Year.	No. Lbs. Lint Sea Island Cotton ginned at this Gin this Year.	No. Bushels Upland Cotton Seed.	No. Bushels Sea Island Cotton Seed
DUVAL.—Continued.							
Total County	....	$23,961,813	$41,883,911	....	....	......	......
Monuments, tombstone and marble works	....	60,700	130,440	....	....	......	......
Dress making	....	362,920	546,230	....	....	......	......
Blacksmith and horseshoeing ...	....	158,720	357,448	....	....	......	......
Cleaning and pressing	....	160,350	245,146	....	....	......	......
Paint manufacturing	....	50,000	64,750	....	....	......	......
Cider and vinegar manufacturing	....	9,000	16,000	....	....	......	......
Sign painting	....	44,850	89,700	....	....	......	......
Shoe manufacturing	....	107,500	134,375	....	....	......	......
Corset manufacturing	....	4,090	8,365	....	....	......	......

TABLE NO. 4.—COST OF MATERIAL USED; VALUE OF PRODUCTS.—*Continued.*

SPECIFIED INDUSTRIES BY COUNTIES.	Mines and Mining Products — Character of Ores Mined—Phosphate—Tons.	Cost of Material and Value of Products.		Ginneries and Products.			
		Cost of Production and Material Used (including Mill or Mine Supplies and Fuel.)	Value of Work (including Custom Work and Repairing.)	No. Lbs. Lint Upland Cotton ginned at this Gin this Year.	No. Lbs. Lint Sea Island Cotton ginned at this Gin this Year.	No. Bushels Upland Cotton Seed.	No. Bushels Sea Island Cotton Seed
DUVAL.—Continued.							
Gunsmiths	....	$ 2,000	$ 4,000	....	....	....	......
Box, baskets and crates	....	120,000	200,000	....	....	....	......
Dock building	....	130,000	160,000	....	....	....	......
Razor grinding	....	3,000	6,500	....	....	....	......
House moving	....	9,000	18,000	....	....	....	......
Ladies' tailoring	....	2,700	5,800	....	....	....	......
Machines and patterns	....	40,000	60,000	....	....	....	......
Ship building and repairs	....	275,000	305,000	....	....	....	......
Cracker manufacturing	....	260,000	280,000	....	....	....	......
Chair manufacturing	....	75,000	100,000	....	....	....	......
Bed spring manufacturing	....	65,000	85,000	....	....	....	......

TABLE NO. 4.—COST OF MATERIAL USED; VALUE OF PRODUCTS.—*Continued.*

SPECIFIED INDUSTRIES BY COUNTIES.	Mines and Mining Products — Character of Ores Mined—Phosphate—Tons.	Cost of Material and Value of Products.		Ginneries and Products.			
		Cost of Production and Material Used (including Mill or Mine Supplies and Fuel.)	Value of Work (including Custom Work and Repairing.)	No. Lbs. Lint Upland Cotton ginned at this Gin this Year.	No. Lbs. Lint Sea Island Cotton ginned at this Gin this Year.	No. Bushels Upland Cotton Seed.	No. Bushels Sea Island Cotton Seed
DUVAL.—Continued.							
Bag manufacturing	....	$ 200,000	$ 250,000	....	....	......	......
Baking powders manufacturing	....	20,000	29,000	....	....	......	......
Ornamental iron manufacturing	....	22,000	34,000	....	....	......	......
Umbrella Mfg. and repairs	....	2,000	4,000	....	....	......	......
Electric theaters and mov. pict,res	....	100,749	129,586	....	....	......	......
Cabinet and repair shops	....	180,200	262,300	....	....	......	......
Rubber stamps and seals	....	11,000	22,000	....	....	......	......
Shoe repair work	....	109,400	181,198	....	....	......	......
Tailor repair work	....	272,188	408,467	....	....	......	......
Ice cream manufacturing	....	109,000	143,000	....	....	......	......
Ice manufacturing	....	293.250	354,875	....	....	......	......

TABLE NO. 4.—COST OF MATERIAL USED; VALUE OF PRODUCTS.—*Continued.*

SPECIFIED INDUSTRIES BY COUNTIES.	Mines and Mining Products — Character of Ores Mined—Phosphate—Tons.	Cost of Material and Value of Products.		Ginneries and Products.			
		Cost of Production and Material Used (including Mill or Mine Supplies and Fuel.)	Value of Work (including Custom Work and Repairing.)	No. Lbs. Lint Upland Cotton ginned at this Gin this Year.	No. Lbs. Lint Sea Island Cotton ginned at this Gin this Year.	No. Bushels Upland Cotton Seed.	No. Bushels Sea Island Cotton Seed
DUVAL.—Continued.							
Steam laundries	....	$ 443,550	$ 643,500	....	....	......	......
Ladies' tailor repair work	....	48,500	480,000	....	....	......	......
Hand laundries	....	133,756	198,611	....	....	......	......
Millinery	....	359,370	610,179	....	....	......	......
Opticians	....	66,970	100,455	....	....	......	......
Jewelry and watch repairs	....	164,665	243,984	....	....	......	......
Hat Mfg., cleaning and repairs	....	32,000	41,085	....	....	......	......
Coffee roasters	....	132,500	199,500	....	....	......	......
Tinners	....	160,800	241,200	....	....	......	......
Plumbing	....	401,700	608,550	....	....	......	......
Perfumery manufacturing	....	5,000	10,000	....	....	......	......

TABLE NO. 4.—COST OF MATERIAL USED; VALUE OF PRODUCTS.—*Continued.*

SPECIFIED INDUSTRIES BY COUNTIES.	Mines and Mining Products — Character of Ores Mined—Phosphate—Tons.	Cost of Material and Value of Products.		Ginneries and Products.			
		Cost of Production and Material Used (including Mill or Mine Supplies and Fuel.)	Value of Work (including Custom Work and Repairing.)	No. Lbs. Lint Upland Cotton ginned at this Gin this Year.	No. Lbs. Lint Sea Island Cotton ginned at this Gin this Year.	No. Bushels Upland Cotton Seed.	No. Bushels Sea Island Cotton Seed
DUVAL.—Continued.							
Dye works	....	$ 29,800	$ 44,700	....	....	......	......
Painting and paper hanging	....	312,000	624,000	....	....	......	......
Photographers	....	80,300	120,400	....	....	......	......
Locksmiths	....	15,900	24,750	....	....	......	......
Iron and brass foundries	....	128,400	192,600	....	....	......	......
Asphalt roofing	....	18,000	36,000	....	....	......	......
Bicycle repairs	....	121,050	185,675	....	....	......	......
Extracts and patent medicines	....	59,400	118,800	....	....	......	......
Bakeries	....	175,930	351,860	....	....	......	......
Machinists and repairs	....	779,500	1,596,500	....	....	......	......
Furniture repairs	....	33,200	53,695	....	....	......	......

TABLE NO. 4.—COST OF MATERIAL USED; VALUE OF PRODUCTS.—*Continued.*

SPECIFIED INDUSTRIES BY COUNTIES.	Mines and Mining Products — Character of Ores Mined—Phosphate—Tons.	Cost of Material and Value of Products.		Ginneries and Products.			
		Cost of Production and Material Used (including Mill or Mine Supplies and Fuel.)	Value of Work (including Custom Work and Repairing.)	No. Lbs. Lint Upland Cotton ginned at this Gin this Year.	No. Lbs. Lint Sea Island Cotton ginned at this Gin this Year.	No. Bushels Upland Cotton Seed.	No. Bushels Sea Island Cotton Seed
DUVAL.—Continued.							
Gas fitting	....	$ 13,850	$ 27,000	....	....	......	......
Job printing, book binding	....	450,132	629,330	....	....	......	......
Bottling works	....	165,760	331,520	....	....	......	......
Musical instrument repairs	....	42,450	84,900	....	....	......	......
Boat building and repairs	....	93,800	140,200	....	....	......	......
Gas manufacturing	....	....	....	....	....	......	......
Upholstering	....	41,075	61,612	....	....	......	......
Carriage and wagon works	....	130,768	196,152	....	....	......	......
Wood yards	....	181,969	273,879	....	....	......	......
Paving	....	....	325,000	....	....	......	......
Electric lighting	....	....	600,000	....	....	......	......

TABLE NO. 4.—COST OF MATERIAL USED; VALUE OF PRODUCTS.—*Continued.*

SPECIFIED INDUSTRIES BY COUNTIES.	Mines and Mining Products — Character of Ores Mined—Phosphate—Tons.	Cost of Material and Value of Products.		Ginneries and Products.			
		Cost of Production and Material Used (including Mill or Mine Supplies and Fuel.)	Value of Work (including Custom Work and Repairing.)	No. Lbs. Lint Upland Cotton ginned at this Gin this Year.	No. Lbs. Lint Sea Island Cotton ginned at this Gin this Year.	No. Bushels Upland Cotton Seed.	No. Bushels Sea Island Cotton Seed
DUVAL.—Continued.							
Water works	....	$.........	$ 650,000	....	....	......	......
Electric railways	....	....	1,100,000	....	....	......	......
Composition capitals, trimm'gs &c	....	50,030	75,045	....	....	......	......
Cooperage	....	217,220	325,830	....	....	......	......
Harness making and repairs	....	32,956	67,912	....	....	......	......
Florists	....	246,300	361,200	....	....	......	......
Picture frames	....	23,370	46,740	....	....	......	......
Window and door frames	....	40,308	80,616	....	....	......	......
Window screens	....	14,232	28,264	....	....	......	......
Vulcanizing	....	30,614	47,605	....	....	......	......
Stair building	....	22,365	44,730	....	....	......	......

TABLE NO. 4.—COST OF MATERIAL USED; VALUE OF PRODUCTS.—*Continued.*

SPECIFIED INDUSTRIES BY COUNTIES.	Mines and Mining Products — Character of Ores Mined—Phosphate—Tons.	Cost oı Material and Value of Products.		Ginneries and Products.			
		Cost of Production and Material Used (including Mill or Mine Supplies and Fuel.)	Value of Work (including Custom Work and Repairing.)	No. Lbs. Lint Upland Cotton ginned at this Gin this Year.	No. Lbs. Lint Sea Island Cotton ginned at this Gin this Year.	No. Bushels Upland Cotton Seed.	No. Bushels Sea Island Cotton Seed
DUVAL.—Continued.							
Auto repairs		$ 98,160	$ 147,240				
Contracting builders		5,461,326	11,253,175				
Engraving and electrotyping		7,500	12,000				
Steam fitting		36,200	72,400				
Awnings		30,712	61,424				
Broom manufacturing		92,700	139,050				
Turning and scroll sawing		19,350	38,700				
Fibre manufacturing		63,000	99,500				
Tallow manufacturing		24,000	36,000				
Tile manufacturing		78,750	116,125				
Electrical contractors		542,400	810,600				

TABLE NO. 4.—COST OF MATERIAL USED; VALUE OF PRODUCTS.—*Continued.*

SPECIFIED INDUSTRIES BY COUNTIES.	Mines and Mining Products — Character of Ores Mined—Phosphate—Tons.	Cost of Material and Value of Products.		Ginneries and Products.			
		Cost of Production and Material Used (including Mill or Mine Supplies and Fuel.)	Value of Work (including Custom Work and Repairing.)	No. Lbs. Lint Upland Cotton ginned at this Gin this Year.	No. Lbs. Lint Sea Island Cotton ginned at this Gin this Year.	No. Bushels Upland Cotton Seed.	No. Bushels Sea Island Cotton Seed
DUVAL.—Continued.							
Sidewalk manufacturing	....	$ 105,200	$ 210,400	....	....	......	......
Saw and planing mills	....	2,890,264	4,166,796	....	....	......	......
Fertilizer manufacturing	....	3,305,326	4,122,658	....	....	......	......
Cigar manufacturing	....	675,900	1,014,072	....	....	......	......
Newspapers	....	399,876	519,814	....	....	......	......
Vulcanizing	....	19,848	31,762	....	....	......	......
Candy manufacturing	....	243,392	369,580	....	....	......	......
Brick manufacturing	....	423,073	846,146	....	....	......	......
Artificial stone	....	133,050	266,100	....	....	......	......
Naval stores	....	552,729	690,910	....	....	......	......

TABLE NO. 4—SPECIFIED INDUSTRIES BY COUNTIES; AVERAGE NUMBER OF WAGE EARNERS; TOTAL WAGES PAID.—*Continued.*

SPECIFIED INDUSTRIES BY COUNTIES.	Number of Establishments Reporting.	Capital Invested (including lands, buildings, improvements, machinery, cash.)	Average Number Wage Earners.	Total Wages.
ESCAMBIA.—				
Total County	27	$ 365,495	345	$ 121,986
Sawmill and cotton gin products combined	7	115,600	148	47,092
Cotton gin products	2	2,300	3	350
Naval stores, turpentine and resin	5	200,315	140	52,877
Carriage building and repair work	2	18,500	9	4,300
General repair shops	2	400	4	1,967
Blacksmithing and repairing	5	600	7	4,000
Miscellaneous single industries	4	27,780	34	11,400

TABLE NO. 4—AVERAGE NUMBER WAGE EARNERS; SPECIFIED AGES; WAGES PAID.
Continued.

SPECIFIED INDUSTRIES BY COUNTIES.	Men 16 Years and Over.		Women 16 Years and Over.		Children Under 16 Years.		Greatest No. Employed at Any One Time During Year in Industry.	Least No. Employed at Any One Time During the Year in Industry.
	Average Number.	Wages.	Average Number.	Wages.	Average Number.	Wages.		
ESCAMBIA.—Continued.								
Total County	345	$ 121,986	...	$	...	......	439	246
Saw mill and cotton gin products combined	148	47.092	...	....	...	......	190	97
Cotton gin products	3	350	...	....	...	......	5	2
Naval stores, turpentine and rosin	140	52,877	...	....	...	......	175	105
Carriage building and repair work	9	4,300	...	....	...	......	9	9
General repair shops	4	1,967	...	....	...	......	4	4
Blacksmithing and repairing	7	4,000	...	....	...	......	7	7
Miscellaneous single industries	34	11.400	...	....	...	......	49	22

TABLE NO. 4—COST OF MATERIAL USED; VALUE OF PRODUCTS.—*Continued.*

SPECIFIED INDUSTRIES BY COUNTIES.	Mines and Mining Products — Character of Ores Mined—Phosphate—Tons.	Cost of Material and Value of Products.		Ginneries and Products.			
		Cost of Production and Material Used (including Mill or Mine Supplies and Fuel.)	Value of Work (including Custom Work and Repairing.)	No. Lbs. Lint Upland Cotton ginned at this Gin this Year.	No. Lbs. Lint Sea Island Cotton ginned at this Gin this Year.	No. Bushels Upland Cotton Seed.	No. Bushels Sea Island Cotton Seed
ESCAMBIA.—Continued.							
Total County	....	$ 255,642	$ 459,650	467,944	....	27,358	......
Saw mill & cotton gin prod. com.	....	106,135	210,640	237,944	....	13,558	......
Cotton gin products	....	540	1,200	230,000	....	13,800	......
Naval stores, turpentine and rosin	....	127,717	208,600	....	....	......	......
Carriage building and repair w'k.	....	7,400	11,585	....	....	......	......
General repair shops	....	900	2,300	....	....	......	......
Blacksm'thing and repairing	....	950	3,975	....	....	......	......
Miscellaneous single industries ..	....	12,000	21,350	....	....	......	......

TABLE NO. 4—SPECIFIED INDUSTRIES BY COUNTIES; AVERAGE NUMBER OF WAGE EARNERS; TOTAL WAGES PAID.—*Continued.*

SPECIFIED INDUSTRIES BY COUNTIES.	Number of Establishments Reporting.	Capital Invested (including lands, buildings, improvements, machinery, cash.)	Average Number Wage Earners.	Total Wages.
FRANKLIN.—				
Total County	43	$ 8,712,250	1,521	$ 484,324
Saw and shingle mill products	7	8,407,000	1,221	293,400
Naval stores, turpentine and resin	6	115,000	115	28,000
Ship and boat builders	4	2,300	6	4,100
Blacksmith and machine shops	7	12,450	36	25,700
Ice manufacture	2	22,001	9	4,800
Oyster packing	2	27,000	36	18,424
Oyster and fish delivery plants	13	114,350	91	106,000
Miscellaneous single industries	2	12,150	7	3,900

TABLE NO. 4—AVERAGE NUMBER WAGE EARNERS; SPECIFIED AGES; WAGES PAID. *Continued.*

SPECIFIED INDUSTRIES BY COUNTIES.	Men 16 Years and Over.		and Over. Women 16 Years		Children Under 16 Years.		Greatest No. Employed at Any One Time During Year in Industry.	Least No. Employed at Any One Time During the Year in Industry.
	Average Number.	Wages.	Average Number.	Wages.	Average Number.	Wages.		
FRANKLIN.—Continued.								
Total County	1,521	$ 484,324	...	$	...	$.....	1,521	1,521
Saw and shingle mill products	1,221	293,400	...	....	...	......	1,221	1,221
Naval stores, turpentine and rosin	115	28,000	...	....	...	......	115	115
Ship and boat builders	6	4,100	...	....	...	......	6	6
Blacksmith and machine shops	36	25,700	...	....	...	......	36	36
Ice manufacture	9	4,800	...	....	...	......	9	9
Oyster packing	36	18,424	...	....	...	......	36	36
Oyster and fish delivery plants	91	106,000	...	....	...	......	91	91
Miscellaneous single industries	7	3,900	...	....	...	......	7	7

TABLE NO. 4—COST OF MATERIAL USED; VALUE OF PRODUCTS.—*Continued.*

SPECIFIED INDUSTRIES BY COUNTIES.	Mines and Mining Products — Character of Ores Mined—Phosphate—Tons.	Cost of Material and Value of Products.		Ginneries and Products.			
		Cost of Production and Material Used (including Mill or Mine Supplies and Fuel.)	Value of Work (including Custom Work and Repairing.)	No. Lbs. Lint Upland Cotton ginned at this Gin this Year.	No. Lbs. Lint Sea Island Cotton ginned at this Gin this Year.	No. Bushels Upland Cotton Seed.	No. Bushels Sea Island Cotton Seed
FRANKLIN.—Continued.							
Total County	....	$ 3,101,300	$ 5,901,900	....	....	......	......
Saw and shingle mill products ..	....	2,782,000	5,495,000	....	....	......	......
Naval stores, turpentine and rosin	....	175,000	205,000	....	....	......	......
Ship and boat builders	....	7,000	11,000	....	....	......	......
Blacksmith and machine shops ..	....	16,000	21,300	....	....	......	......
Ice manufacture	....	12,000	23,000	....	....	......	......
Oyster packing	....	50,000	60,000	....	....	......	......
Oyster and fish delivery plants ..	....	58,000	77,600	....	....	......	......
Miscellaneous single industries ..	....	1,300	9,000	....	....	......	.....

TABLE NO. 4—SPECIFIED INDUSTRIES BY COUNTIES; AVERAGE NUMBER OF WAGE EARNERS; TOTAL WAGES PAID.—*Continued.*

SPECIFIED INDUSTRIES BY COUNTIES.	Number of Establishments Reporting.	Capital Invested (including lands, buildings, improvements, machinery, cash.)	Average Number Wage Earners.	Total Wages.
HAMILTON.—				
Total County	46	$ 673,000	792	$ 250,490
Saw and shingle mill products	10	545,000	520	203,800
Naval stores, turpentine and rosin	9	74,000	160	33,000
Ginneries and products	18	49,700	99	8,490
Blacksmithing and repairing	6	2,100	9	4,650
Grist mill products	3	2,200	4	550

TABLE NO. 4—AVERAGE NUMBER WAGE EARNERS; SPECIFIED AGES; WAGES PAID.
Continued.

SPECIFIED INDUSTRIES BY COUNTIES.	Men 16 Years and Over.		Women 16 Years and Over.		Children Under 16 Years.		Greatest No. Employed at Any One Time During Year in Industry.	Least No. Employed at Any One Time During the Year in Industry.
	Average Number.	Wages.	Average Number.	Wages.	Average Number.	Wages.		
HAMILTON.—Continued.								
Total County	792	$ 250,490	...	$	...	$.....	910	548
Saw and shingle mill products	520	203,800	...	....	...	......	608	379
Naval stores, turpentine and rosin	160	33,000	...	....	...	......	190	79
Ginneries and products	99	8,490	...	....	...	......	99	77
Blacksmithing and repairing	9	4,650	...	....	...	......	9	9
Grist mill products	4	550	...	....	...	......	4	4

TABLE NO. 4—COST OF MATERIAL USED; VALUE OF PRODUCTS.—*Continued.*

SPECIFIED INDUSTRIES BY COUNTIES.	Mines and Mining Products — Character of Ores Mined—Phosphate—Tons.	Cost of Material and Value of Products.		Ginneries and Products.			
		Cost of Production and Material Used (including Mill or Mine Supplies and Fuel.)	Value of Work (including Custom Work and Repairing.)	No. Lbs. Lint Upland Cotton ginned at this Gin this Year.	No. Lbs. Lint Sea Island Cotton ginned at this Gin this Year.	No. Bushels Upland Cotton Seed.	No. Bushels Sea Island Cotton Seed.
HAMILTON.—Continued.							
Total County	....	$ 399,320	$ 668.300	....	1,393.430	......	83,308
Saw and shingle mill products ..	....	347,000	511,500	....	....	......	......
Naval stores, turpentine and rosin	....	48,300	124,000	....	....	......	......
Ginneries and products	....	2,730	22,100	....	1,393,430	......	83,308
Blacksmithing and repairing	....	1,120	9,500	....	....	......	......
Grist mill products	....	170	1,200	....	....	......	.....

TABLE NO. 4—SPECIFIED INDUSTRIES BY COUNTIES; AVERAGE NUMBER OF WAGE EARNERS; TOTAL WAGES PAID.—*Continued.*

SPECIFIED INDUSTRIES BY COUNTIES.	Number of Establishments Reporting.	Capital Invested (including lands, buildings, improvements, machinery, cash.)	Average Number Wage Earners.	Total Wages.
HERNANDO.—				
Total County	16	$ 339,200	402	$ 142,590
Saw mill products	2	104,500	115	60,900
Planing mill products	2	41,500	15	3,600
Naval stores, turpentine and rosin	7	151,500	240	62,900
Shingle manufacture	2	16,200	20	8,840
Miscellaneous single industries	3	25,500	12	6,350

TABLE NO. 4—AVERAGE NUMBER WAGE EARNERS; SPECIFIED AGES; WAGES PAID.

Continued.

SPECIFIED INDUSTRIES BY COUNTIES.	Men 16 Years and Over.		Women 16 Years and Over.		Children Under 16 Years.		Greatest No. Employed at Any One Time During Year in Industry.	Least No. Employed at Any One Time During the Year in Industry.
	Average Number.	Wages.	Average Number.	Wages.	Average Number.	Wages.		
HERNANDO.—Continued.								
Total County	402	$ 142,590	...	$	...	$.....	515	315
Saw mill products	115	60,900	...	....	...	......	130	92
Planing mill products	15	3,600	...	....	...	......	20	9
Naval stores, turpentine and rosin	240	62,900	...	....	...	......	320	190
Shingle manufacture	20	8,840	...	....	...	......	25	18
Miscellaneous single industries	12	6,350	...	....	...	......	20	6

TABLE NO. 4—COST OF MATERIAL USED; VALUE OF PRODUCTS.—*Continued.*

SPECIFIED INDUSTRIES BY COUNTIES.	Mines and Mining Products — Character of Ores Mined—Phosphate—Tons.	Cost of Material and Value of Products.		Ginneries and Products.			
		Cost of Production and Material Used (including Mill or Mine Supplies and Fuel.)	Value of Work (including Custom Work and Repairing.)	No. Lbs. Lint Upland Cotton ginned at this Gin this Year.	No. Lbs. Lint Sea Island Cotton ginned at this Gin this Year.	No. Bushels Upland Cotton Seed.	No. Bushels Sea Island Cotton Seed
HERNANDO.—Continued.							
Total County	....	$ 220,530	$ 425,700	....	....	......	......
Saw mill products	....	74,400	121,600	....	....	......	......
Planing mill products	....	7,400	41,000	....	....	......	......
Naval stores, turpentine and rosin	....	103,780	169,460	....	....	......	......
Shingle manufacture	....	24,950	54,240	....	....	......	......
Miscellaneous single industries ..	....	10,000	39,400	....	....	......	......

TABLE NO. 4—SPECIFIED INDUSTRIES BY COUNTIES; AVERAGE NUMBER OF WAGE EARNERS; TOTAL WAGES PAID.—*Continued.*

SPECIFIED INDUSTRIES BY COUNTIES.	Number of Establishments Reporting.	Capital Invested (including lands, buildings, improvements, machinery, cash.)	Average Number Wage Earners.	Total Wages.
HILLSBOROUGH.—				
Total County	282	$ 3,074,360	6,173	$ 3,813,407
Saw mill and novelty works products	23	257,850	299	162,125
Naval stores, turpentine and rosin	6	210,000	147	55,075
Cigar manufacture	48	1,394,900	3,670	2,695,942
Shoe manufacture and repairing	22	6,940	28	14,450
Men's tailoring, pressing and repairing	19	5,185	34	18,550
Women's talioring, dressmaking and repairing	16	6,310	24	8,230
Blacksmithing and repairing	18	30,750	53	34,850
Watch making and repairing	8	3,425	8	5,450
Irrigation and water supply works	26	9,950	30	7,900

TABLE NO. 4.—SPECIFIED INDUSTRIES BY COUNTIES; AVERAGE NUMBER OF WAGE EARNERS; TOTAL WAGES PAID.—*Continued.*

SPECIFIED INDUSTRIES BY COUNTIES.	Number of Establishments Reporting.	Capital Invested (including lands, buildings, improvements, machinery, cash.)	Average Number Wage Earners.	Total Wages.
HILLSBOROUGH—Continued.				
Nawspaper printing, book and job work	6	$ 130,300	110	$ 107,220
Machine, foundry and repair shops	4	185,250	162	205,750
Artificial stone and concrete manufacture	6	13,800	25	11,550
Laundry works	7	27,000	56	26,700
Contracting, building and repair work	6	6,150	35	22,400
Bakery and confectionery products	4	17,200	14	8,000
Bicycle repair works	3	4,000	4	2,450
Automobile repair shops	4	9,000	9	7,220
Fruit and vegetable crate manufacture	2	158,000	260	103,000
Tin and repair works	3	1,000	4	4,500

TABLE NO. 4.—SPECIFIED INDUSTRIES BY COUNTIES; AVERAGE NUMBER OF WAGE EARNERS; TOTAL WAGES PAID.—*Continued.*

SPECIFIED INDUSTRIES BY COUNTIES.	Number of Establishments Reporting.	Capital Invested (including lands, buildings, improvements, machinery, cash.)	Average Number Wage Earners.	Total Wages.
HILLSBOROUGH—Continued.				
Macaroni manufacture	3	$ 13,000	9	$ 4,400
Wood works and repair shops	7	6,400	42	20,425
Fertilizer manufacture	2	85,000	40	30,000
Electric light, power & ice plants	3	17,000	15	11,800
Cigar box manufacture	2	240,600	870	98,200
Sponge packing	8	28,000	92	48,700
Miscellaneous single industries	26	207,350	133	98,520

TABLE NO. 4—AVERAGE NUMBER WAGE EARNERS; SPECIFIED AGES; WAGES PAID.

Continued.

SPECIFIED INDUSTRIES BY COUNTIES.	Men 16 Years and Over.		Women 16 Years and Over.		Children Under 16 Years.		Greatest No. Employed at Any One Time During Year in Industry.	Least No. Employed at Any One Time During the Year in Industry.
	Average Number.	Wages.	Average Number.	Wages.	Average Number.	Wages.		
HILLSBOROUGH—Continued.								
Total County	5,585	$ 3443827	677	$ 367,172	2	$ 408	7,909	4,635
Saw mill and novelty works products	299	162,125	...	....	...	......	381	210
Naval stores, turpentine and rosin	147	55,075	...	....	...	......	189	98
Cigar manufacture	3,277	2,370,242	493	325,800	...	......	5,005	2,737
Shoe manufacture and repairing	28	14,450	...	....	...	......	28	28
Men's tailoring, pressing and repairing	34	18,550	...	....	...	......	35	33
Women's tailoring, dressmaking and repairing	9	3,330	15	4,900	...	......	26	23
Blacksmithing and repairing	53	34,850	...	....	...	......	66	44
Watch making and repairing	8	5,450	...	....	...	......	9	8
Irrigation and water supply works	30	7,900	...	....	...	......	33	19

TABLE NO. 4.—AVERAGE NUMBER WAGE EARNERS; SPECIFIED AGES; WAGES PAID, *Continued.*

SPECIFIED INDUSTRIES BY COUNTIES.	Men 16 Years and Over.		Women 16 Years and Over.		Children Under 16 Years.		Greatest No. Employed at Any One Time During Year in Industry.	Least No. Employed at Any One Time During the Year in Industry.
	Average Number.	Wages.	Average Number.	Wages.	Average Number.	Wages.		
HILLSBOROUGH—Continued.								
Newspaper printing, book and job work	109	$ 106,920	1	$ 300	...	$.....	122	94
Machine, foundry and repair shops............	161	205,550	...	....	1	200	201	93
Artificial stone and concrete manufacture	25	11,550	...	....	...	......	42	15
Laundry works	21	12,160	35	14,540	...	......	64	51
Contracting, building and repair work	35	22,400	...	....	...	......	87	23
Bakery and confectionery products	14	8,000	...	....	...	......	14	13
Bicycle repair works.......................	4	2,450	...	....	...	......	5	4
Automobile repair shops	9	7,220	...	....	...	......	11	6
Fruit and vegetable crate manufacture	225	94,000	25	9,000	...	......	285	110
Tin and repair works	4	4,500	...	....	...	......	8	3

TABLE NO. 4.—AVERAGE NUMBER WAGE EARNERS; SPECIFIED AGES; WAGES PAID.

Continued.

SPECIFIED INDUSTRIES BY COUNTES.	Men 16 Years and Over.		Women 16 Years and Over.		Children Under 16 Years.		Greatest No. Employed at Any One Time During Year in Industry.	Least No. Employed at Any One Time During the Year in Industry.
	Average Number.	Wages.	Average Number.	Wages.	Average Number.	Wages.		
HILLSBOROUGH—Continued.								
Macaroni manufacture	9	$ 4,400	...	$	...	$.....	11	6
Wood works and repair shops	42	18,425	...	....	...	......	56	19
Fertilizer manufacture	40	30.000	...	....	...	......	40	40
Electric light, power & ice plants	15	11,800	...	....	...	......	20	11
Cigar box manufacture	770	88,200	100	10,000	...	......	870	814
Sponge packing	92	48,700	...	....	...	......	121	57
Miscellaneous single industries	125	95,580	8	2,632	1	208	180	76

TABLE NO. 4—COST OF MATERIAL USED; VALUE OF PRODUCTS.—*Continued.*

SPECIFIED INDUSTRIES BY COUNTIES.	Mines and Mining Products — Character of Ores Mined—Phosphate—Tons.	Cost of Material and Value of Products.		Ginneries and Products.			
		Cost of Production and Material Used (including Mill or Mine Supplies and Fuel.)	Value of Work (including Custom Work and Repairing.)	No. Lbs. Lint Upland Cotton ginned at this Gin this Year.	No. Lbs. Lint Sea Island Cotton ginned at this Gin this Year.	No. Bushels Upland Cotton Seed.	No. Bushels Sea Island Cotton Seed
HILLSBOROUGH—Continued.							
Total County	....	$ 8,116,762	$12,524,838	....	....	......	......
Saw mill and novelty works prod.	....	317,600	475,450	....	....	......	......
Naval stores, turpentine and rosin	....	86,065	148,000	....	....	......	......
Cigar manufacture	....	4,471,950	7,264,200	....	....	......	......
Shoe manufacture and repairing.	....	39,805	53,575	....	....	......	......
Men's tailoring, pressi'g & rep'ring	....	32.600	52,050	....	....	......	......
Women's tailoring, dressmaking and repairing	....	16,550	25,200	....	....	......	......
Blacksmithing and repairing	....	67,577	246,443	....	....	......	......
Watchmaking and repairing	....	7,250	10,750	....	....	......	......
Irrigation & water supply works.	....	12,950	24,700	....	....	......	......

TABLE NO. 4.—COST OF MATERIAL USED; VALUE OF PRODUCTS.—*Continued.*

SPECIFIED INDUSTRIES BY COUNTIES.	Mines and Mining Products — Character of Ores Mined—Phosphate—Tons.	Cost of Material and Value of Products.		Ginneries and Products.			
		Cost of Production and Material Used (including Mill or Mine Supplies and Fuel.)	Value of Work (including Custom Work and Repairing.)	No. Lbs. Lint Upland Cotton ginned at this Gin this Year.	No. Lbs. Lint Sea Island Cotton ginned at this Gin this Year.	No. Bushels Upland Cotton Seed.	No. Bushels Sea Island Cotton Seed
HILLSBOROUGH—Continued.							
Nawspaper p't'g., book & job w'k.	....	$ 83,800	$ 211,200	....	....	......	......
Machine, foundry & repair shops.	....	408,200	486,400	....	....	......	......
Artificial stone & concrete mfg...	....	38,480	51,500	....	....	......	......
Laundry works	....	33,000	49,640	....	....	......	......
Contracti'g, bb'ld'g & repair w'ks.	....	53,900	76,200	....	....	......	......
Bakery & confectionery products.	....	16,000	36,500	....	....	......	......
Bicycle repair works	....	4,500	7,600	....	....	......	......
Automobile repair shops	....	13,300	20,800	....	....	......	......
Fruit and vegetable crate m'f'ture	....	268,000	305,000	....	....	......	......
Tin and repair works	....	5,700	8,200	....	....	......	......
Macaroni manufacture	....	18,400	27,500	....	....	......	......

TABLE NO. 4.—COST OF MATERIAL USED; VALUE OF PRODUCTS.—*Continued.*

SPECIFIED INDUSTRIES BY COUNTIES.	Mines and Mining Products — Character of Ores Mined—Phosphate—Tons.	Cost of Material and Value of Products.		Ginneries and Products.			
		Cost of Production and Material Used (including Mill or Mine Supplies and Fuel.)	Value of Work (including Custom Work and Repairing.)	No. Lbs. Lint Upland Cotton ginned at this Gin this Year.	No. Lbs. Lint Sea Island Cotton ginned at this Gin this Year.	No. Bushels Upland Cotton Seed.	No. Bushels Sea Island Cotton Seed
HILLSBOROUGH—Continued.							
Wood works and repair shops ...	....	$ 28,500	$ 41,700	....	....	......	......
Fertilizer manufacture	....	85,000	250,000	....	....	......	......
Electric light, power & ice plants	....	25,000	39,500	....	....	......	......
Cigar box manufacture	....	1,670,000	2,125,000	....	....	......	......
Sponge packing	....	79,300	92,500	....	....	......	......
Miscellaneous single industries ..	....	233,335	395,230	....	....	......	......

TABLE NO. 4.—SPECIFIED INDUSTRIES BY COUNTIES; AVERAGE NUMBER OF WAGE EARNERS; TOTAL WAGES PAID.—*Continued.*

SPECIFIED INDUSTRIES BY COUNTIES.	Number of Establishments Reporting.	Capital Invested (including lands, buildings, improvements, machinery, cash.)	Average Number Wage Earners.	Total Wages.
HOLMES.—				
Total County	102	$ 872,744	938	$ 294,158
Saw mill products	21	615,980	466	155,478
Naval stores, turpentine and rosin	17	181,500	380	112,330
Grist mill products	22	35,430	33	5,642
Blacksmithing and repairing	17	5,987	20	6,100
Cotton ginneries and products	12	10,662	35	3,626
Stave manufacture	5	1,485	17	2,574
Shingle manufacture	4	2,100	16	4,028
Newspaper and job printing	2	1,600	6	1,400
Brick manufacture	2	18,000	15	2,980

TABLE NO. 4.—AVERAGE NUMBER WAGE EARNERS; SPECIFIED AGES; WAGES PAID. *Continued.*

SPECIFIED INDUSTRIES BY COUNTES.	Men 16 Years and Over.		Women 16 Years and Over.		Children Under 16 Years.		Greatest No. Employed at Any One Time During Year in Industry.	Least No. Employed at Any One Time During the Year in Industry.
	Average Number.	Wages.	Average Number.	Wages.	Average Number.	Wages.		
HOLMES.—Continued.								
Total County	944	$ 290,433	...	$	44	$3,825	1,475	589
Saw mill products	442	153,488	...	....	24	2,090	643	225
Naval stores, turpentine and rosin	363	111,030	...	....	17	1,300	627	256
Grist mill products	33	5,642	...	....	...	......	47	28
Blacksmithing and repairing	20	6,100	...	....	...	......	27	18
Cotton ginneries and products	33	3,251	...	....	2	375	49	29
Stave manufacture	17	2,574	...	....	...	......	20	15
Shingle manufacture	16	4,028	...	....	...	......	22	10
Newspaper and job printing	5	1,340	...	....	1	60	9	4
Brick manufacture	15	2,980	...	....	...	......	31	4

TABLE NO. 4.—COST OF MATERIAL USED; VALUE OF PRODUCTS.—*Continued.*

SPECIFIED INDUSTRIES BY COUNTIES.	Mines and Mining Products — Character of Ores Mined—Phosphate—Tons.	Cost of Material and Value of Products.		Ginneries and Products.			
		Cost of Production and Material Used (Including Mill or Mine Supplies and Fuel.)	Value of Work (including Custom Work and Repairing.)	No. Lbs. Lint Upland Cotton ginned at this Gin this Year.	No. Lbs. Lint Sea Island Cotton ginned at this Gin this Year.	No. Bushels Upland Cotton Seed.	No. Bushels Sea Island Cotton Seed
HOLMES.—Continued.							
Total County	....	$ 706,154	$ 1,051,952	1,255,000	....	80,356	......
Saw mill products	....	479,436	621,614	....	....	......	......
Naval stores, turpentine and rosin	....	185,360	341,648	....	....	......	......
Grist mill products	....	8,410	17,600	....	....	......	......
Blacksmithing and repairing	....	9,140	19,060	....	....	......	......
Cotton ginneries and products	....	4,816	8,650	1,255,000	....	80,356	......
Stave manufacture	....	6,076	14,740	....	....	......	......
Shingle manufacture	....	6,552	13,740	....	....	......	......
Newspaper and job printing	....	1,900	3,800	....	....	......	......
Brick manufacture	....	4,464	11,100	....	....	......	......

TABLE NO. 4.—SPECIFIED INDUSTRIES BY COUNTIES; AVERAGE NUMBER OF WAGE EARNERS; TOTAL WAGES PAID.—*Continued.*

SPECIFIED INDUSTRIES BY COUNTIES.	Number of Establishments Reporting.	Capital Invested (including lands, buildings, improvements, machinery, cash.)	Average Number Wage Earners.	Total Wages.
JACKSON.—				
Total County	212	$ 584,070	1,085	$ 279,767
Saw mill products	31	296,675	352	136,317
Naval stores, turpentine and rosin	22	145,400	366	74,100
Ginneries and products	20	49,875	105	11,432
Cooperage works	30	2,000	30	5,837
Blacksmithing and repairing	24	3,575	28	4,950
Grist mill products	25	12,810	45	6,380
Wood work and general repairing	19	3,185	24	6,620
Planing mill products	7	8,550	21	1,925
Shingle manufacture	8	5,550	29	6,779
Stave manufacture	3	400	3	304

TABLE NO. 4.—SPECIFIED INDUSTRIES BY COUNTIES; AVERAGE NUMBER OF WAGE EARNERS; TOTAL WAGES PAID.—*Continued.*

SPECIFIED INDUSTRIES BY COUNTIES.	Number of Establishments Reporting.	Capital Invested (including lands, buildings, improvements, machinery, cash.)	Average Number Wage Earners.	Total Wages.
JACKSON.—Continued.				
Corn crushers	4	$ 500	4	$ 271
Rice mill products	3	800	3	252
Millinery & women's repair work	4	2,125	5	1.300
Miscellaneous single industries	12	52,625	70	23,300

TABLE NO. 4.—AVERAGE NUMBER WAGE EARNERS; SPECIFIED AGES; WAGES PAID.

Continued.

SPECIFIED INDUSTRIES BY COUNTIES.	Men 16 Years and Over.		Women 16 Years and Over.		Children Under 16 Years.		Greatest No. Employed at Any One Time During Year in Industry.	Least No. Employed at Any One Time During the Year in Industry.
	Average Number.	Wages.	Average Number.	Wages.	Average Number.	Wages.		
JACKSON.—Continued.								
Total County	1,085	$ 279,767	...	$	...	$.....	1,373	855
Saw mill products	352	136,317	...	....	...	......	433	307
Naval stores, turpentine and rosin	366	74,100	...	....	...	......	505	234
Ginneries and products	105	11,432	...	....	...	......	119	87
Cooperage works	30	5,837	...	....	...	......	30	30
Blacksmithing and repairing	28	4,950	...	....	...	......	34	26
Grist mill products	45	6,380	...	....	...	......	47	38
Wood work and general repairing	24	6,620	...	....	...	......	31	23
Planing mill products	21	1,925	...	....	...	......	24	17
Shingle manufacture	29	6,779	...	....	...	......	34	22
Stave manufacture	3	304	...	....	...	......	4	3

TABLE NO. 4.—AVERAGE NUMBER WAGE EARNERS; SPECIFIED AGES; WAGES PAID.

Continued.

SPECIFIED INDUSTRIES BY COUNTES.	Men 16 Years and Over.		Women 16 Years and Over.		Children Under 16 Years.		Greatest No. Employed at Any One Time During Year in Industry.	Least No. Employed at Any One Time During the Year in Industry.
	Average Number.	Wages.	Average Number.	Wages.	Average Number.	Wages.		
JACKSON.—Continued.								
Corn crushers	4	$ 271	...	$	...	$.....	4	4
Rice mill products	3	252	...	....	...	......	3	3
Millinery & women's repair work	5	1,300	...	....	...	......	6	5
Miscellaneous single industries	70	23,300	...	....	...	......	99	56

TABLE NO. 4.—COST OF MATERIAL USED; VALUE OF PRODUCTS.—*Continued.*

SPECIFIED INDUSTRIES BY COUNTIES.	Mines and Mining Products — Character of Ores Mined—Phosphate—Tons.	Cost of Material and Value of Products.		Ginneries and Products.			
		Cost of Production and Material Used (Including Mill or Mine Supplies and Fuel.)	Value of Work (including Custom Work and Repairing.)	No. Lbs. Lint Upland Cotton ginned at this Gin this Year.	No. Lbs. Lint Sea Island Cotton ginned at this Gin this Year.	No. Bushels Upland Cotton Seed.	No. Bushels Sea Island Cotton Seed
JACKSON.—Continued. Total County	....	$	$	4,084,930	9,000	302170	1,500
Saw mill products	....	....	....	....	....	......	......
Naval stores, turpentine and rosin	....	....	....	....	....	......	......
Ginneries and products	....	....	....	4,084,930	9,000	302170	1,500
Cooperage works	....	....	....	....	....	......	......
Blacksmithing and repairing	....	....	....	....	....	......	......
Grist mill products	....	....	....	....	....	......	......
Wood work and general repairing	....	....	....	....	....	......	......
Planing mill products	....	....	....	....	....	......	......
Shingle manufacture	....	....	....	....	....	......	......
Stave manufacture	....	....	....	....	....	......	......

TABLE NO. 4.—COST OF MATERIAL USED; VALUE OF PRODUCTS.—*Continued.*

SPECIFIED INDUSTRIES BY COUNTIES.	Mines and Mining Products — Character of Ores Mined—Phosphate—Tons.	Cost of Material and Value of Products.		Ginneries and Products.			
		Cost of Production and Material Used (including Mill or Mine Supplies and Fuel.)	Value of Work (including Custom Work and Repairing.)	No. Lbs. Lint Upland Cotton ginned at this Gin this Year.	No. Lbs. Lint Sea Island Cotton ginned at this Gin this Year.	No. Bushels Upland Cotton Seed.	No. Bushels Sea Island Cotton Seed
JACKSON.—Continued.							
Corn crushers	....	$	$	....	....	......	......
Rice mill products	....	....	....	....	....	......	......
Millinery & women's repair work.	....	....	....	....	....	......	......
Miscellaneous single industries ..	....	....	....	....	....	......	......

TABLE NO. 4.—SPECIFIED INDUSTRIES BY COUNTIES; AVERAGE NUMBER OF WAGE EARNERS; TOTAL WAGES PAID.—*Continued.*

SPECIFIED INDUSTRIES BY COUNTIES.	Number of Establishments Reporting.	Capital Invested (including lands, buildings, improvements, machinery, cash.)	Average Number Wage Earners.	Total Wages.
JEFFERSON.—				
Total County	344	$ 318,300	1,471	$ 152,906
Saw mill products	22	88,650	287	66,926
Naval stores, turpentine and rosin	9	178,000	318	63,250
Cane mills and products	259	6,450	717	7,100
Ginneries and products	24	34,125	91	8,230
Grist mill products	13	5,000	28	3,100
Blacksmithing and repair work	11	5,050	19	3,200
Shingle mills and products	3	750	8	800
Cooperage and stave manufacture	3	250	3	300

TABLE NO. 4.—AVERAGE NUMBER WAGE EARNERS; SPECIFIED AGES; WAGES PAID.
Continued.

SPECIFIED INDUSTRIES BY COUNTES.	Men 16 Years and Over.		Women 16 Years and Over.		Children Under 16 Years.		Greatest No. Employed at Any One Time During Year in Industry.	Least No. Employed at Any One Time During the Year in Industry.
	Average Number.	Wages.	Average Number.	Wages.	Average Number.	Wages.		
JEFFERSON.—Continued.								
Total County	1,466	$ 152,606	...	$	5	$ 300	1,659	845
Saw mill products	287	66,926	...	....	...	......	292	181
Naval stores, turpentine and rosin	313	62.950	...	....	5	300	387	242
Cane mills and products	717	7,100	...	....	...	......	800	300
Ginneries and products	91	8,230	...	....	...	......	116	70
Grist mill products	28	3,100	...	....	...	......	29	25
Blacksmithing and repair work	19	3,200	...	....	...	......	20	17
Shingle mills and products	8	800	...	....	...	......	11	7
Cooperage and stave manufacture	3	300	...	....	...	......	4	3

TABLE NO. 4.—COST OF MATERIAL USED; VALUE OF PRODUCTS.—*Continued.*

SPECIFIED INDUSTRIES BY COUNTIES.	Mines and Mining Products — Character of Ores Mined—Phosphate—Tons.	Cost of Material and Value of Products.		Ginneries and Products.			
		Cost of Production and Material Used (including Mill or Mine Supplies and Fuel.)	Value of Work (including Custom Work and Repairing.)	No. Lbs. Lint Upland Cotton ginned at this Gin this Year.	No. Lbs. Lint Sea Island Cotton ginned at this Gin this Year.	No. Bushels Upland Cotton Seed.	No. Bushels Sea Island Cotton Seed
JEFFERSON.—Continued.							
Total County	....	$ 199,451	$ 654,355	1,374,300	71,000	100025	3,840
Saw mill products	....	111,081	371,925	....	....	......	......
Naval stores, turpentine and rosin	....	58,450	203,000	....	....	......	......
Cane mills and products	....	14,500	30,750	....	....	......	......
Ginneries and products	....	4,600	10,000	1,374,300	71,000	100025	3,840
Grist mill products	....	3,450	14,900	....	....	......	......
Blacksmithing and repair work ..	....	5,950	15,580	....	....	......	......
Shingle mills and products	....	700	6,700	....	....	......	......
Cooperage and stave manufacture	....	720	1,500	....	....	......	......

TABLE NO. 4.—SPECIFIED INDUSTRIES BY COUNTIES; AVERAGE NUMBER OF WAGE EARNERS; TOTAL WAGES PAID.—*Continued.*

SPECIFIED INDUSTRIES BY COUNTIES.	Number of Establishments Reporting.	Capital Invested (including lands, buildings, improvements, machinery, cash.)	Average Number Wage Earners.	Total Wages.
LAFAYETTE.—				
Total County	24	$ 773,700	1,150	$ 89,000
Saw and planing mill products	9	526,700	853	48,100
Naval stores, turpentine and rosin	6	220,000	255	37,500
Ginneries and products	6	19,000	35	2,800
Blacksmithing and repairing	2	2,000	3	300
Miscellaneous single industries	1	6,000	4	300

TABLE NO. 4.—AVERAGE NUMBER WAGE EARNERS; SPECIFIED AGES; WAGES PAID.
Continued.

SPECIFIED INDUSTRIES BY COUNTIES.	Men 16 Years and Over.		Women 16 Years and Over.		Children Under 16 Years.		Greatest No. Employed at Any One Time During Year in Industry.	Least No. Employed at Any One Time During the Year in Industry.
	Average Number.	Wages.	Average Number.	Wages.	Average Number.	Wages.		
LAFAYETTE.—Continued.								
Total County	1,150	$ 89,000	...	$	...	$.....	1,657	872
Saw and planing mill products	853	48,100	...	....	...	......	1,259	632
Naval stores, turpentine and rosin	255	37,500	...	....	...	......	360	210
Ginneries and products	35	2,800	...	....	...	......	32	24
Blacksmithing and repairing	3	300	...	....	...	......	2	2
Miscellaneous single industries	4	300	...	....	...	......	4	4

TABLE NO. 4.—COST OF MATERIAL USED; VALUE OF PRODUCTS.—*Continued.*

SPECIFIED INDUSTRIES BY COUNTIES.	Mines and Mining Products — Character of Ores Mined—Phosphate—Tons.	Cost of Material and Value of Products.		Ginneries and Products.			
		Cost of Production and Material Used (Including Mill or Mine Supplies and Fuel.)	Value of Work (including Custom Work and Repairing.)	No. Lbs. Lint Upland Cotton ginned at this Gin this Year.	No. Lbs. Lint Sea Island Cotton ginned at this Gin this Year.	No. Bushels Upland Cotton Seed.	No. Bushels Sea Island Cotton Seed
LAFAYETTE.—Continued.							
Total County	....	$	$	....	....	......	......
Saw and planing mill products ..	....	....	....	....	....	......	......
Naval stores, turpentine and rosin	....	....	....	....	....	......	......
Ginneries and products	....	....	....	....	....	......	......
Blacksmithing and repairing	....	....	....	....	....	......	......
Miscellaneous single industries ..	....	....	....	....	....	......	......

TABLE NO. 4.—SPECIFIED INDUSTRIES BY COUNTIES; AVERAGE NUMBER OF WAGE EARNERS; TOTAL WAGES PAID.—*Continued.*

SPECIFIED INDUSTRIES BY COUNTIES.	Number of Establishments Reporting.	Capital Invested (including lands, buildings, improvements, machinery, cash.)	Average Number Wage Earners.	Total Wages.
LAKE.—				
Total County	87	$ 563,400	452	$ 128,951
Saw and planing mill products	10	89,250	50	14,965
Naval stores, turpentine and rosin	5	174,300	157	54,180
Syrup manufacture	35	6,375	71	1,620
Irrigation and water supply works	16	25,475	29	4,905
Blacksmith and general repair work	4	5,200	6	2,550
Ice manufacture	2	20,000	6	3,400
Brick, concrete and pressed stone manufacturing	4	41,000	38	13,400
Men's tailoring and repairing	2	2,350	3	750
Shoe making and repairing	2	400	2	600
Women's tailoring and repairing	2	550	2	450
Miscellaneous single industries	5	198,500	88	32,131

TABLE NO. 4.—AVERAGE NUMBER WAGE EARNERS; SPECIFIED AGES; WAGES PAID.

Continued.

SPECIFIED INDUSTRIES BY COUNTIES	Men 16 Years and Over.		Women 16 Years and Over.		Children Under 16 Years.		Greatest No. Employed at Any One Time During Year in Industry.	Least No. Employed at Any One Time During the Year in Industry.
	Average Number.	Wages.	Average Number.	Wages.	Average Number.	Wages.		
LAKE.—Continued								
Total County	452	$ 128,951	...	....	...	$.....	583	291
Saw and planing mill products	50	14,965	...	....	...	......	84	34
Naval stores, turpentine and rosin	157	54,180	...	....	...	......	185	125
Syrup manufacture	71	1,620	...	....	...	......	89	41
Irrigation and water supply works	29	4,905	...	....	...	......	54	19
Blacksmith and general repair work	6	2,550	...	....	...	......	7	4
Ice manufacture	6	3,400	...	....	...	......	6	6
Brick, concrete and pressed stonemfg.	38	13,400	...	....	...	......	80	18
Men's tailoring and repairing	3	750	...	....	...	......	4	2
Shoe making and repairing	2	600	...	....	...	......	2	2
Women's tailoring and repairing	2	450	...	....	...	......	2	2
Miscellaneous single industries	88	32,131	...	....	...	......	100	38

TABLE NO. 4.—COST OF MATERIAL USED; VALUE OF PRODUCTS.—*Continued.*

SPECIFIED INDUSTRIES BY COUNTIES.	Mines and Mining Products — Character of Ores Mined—Phosphate—Tons.	Cost of Material and Value of Products.		Ginneries and Products.			
		Cost of Production and Material Used (Including Mill or Mine Supplies and Fuel.)	Value of Work (Including Custom Work and Repairing.)	No. Lbs. Lint Upland Cotton ginned at this Gin this Year.	No. Lbs. Lint Sea Island Cotton ginned at this Gin this Year.	No. Bushels Upland Cotton Seed.	No. Bushels Sea Island Cotton Seed.
LAKE.—Continued.							
Total County	....	$ 201,551	$ 329,780	....	....	......	......
Saw and planing mill products ..	....	20,050	33,300	....	....	......	......
Naval stores, turpentine and rosin	....	88,968	135,750	....	....	......	......
Syrup manufacture	....	2,540	8,080	....	....	......	......
Irrigation & water supply works	....	....	....	....	....	......	......
Blacksmithing & gen'l. repair w'k.	....	1,800	4,100	....	....	......	......
Ice manufacture	....	8,000	15,000	....	....	......	......
Brick, concrete & pr'sed stone mfg.	....	39,000	51,000	....	....	......	......
Men's tailoring and repairing ...	....	2,810	5,300	....	....	......	......
Shoe making and repairing	....	540	1,200	....	....	......	......
Women's tailoring and repairing.	....	375	1,050	....	....	......	......
Miscellaneous single industries ..	....	37,468	75,000	....	....	......	......

TABLE NO. 4.—SPECIFIED INDUSTRIES BY COUNTIES; AVERAGE NUMBER OF WAGE EARNERS; TOTAL WAGES PAID.—*Continued.*

SPECIFIED INDUSTRIES BY COUNTIES.	Number of Establishments Reporting.	Capital Invested (including lands, buildings, improvements, machinery, cash.)	Average Number Wage Earners.	Total Wages.
LEON.—				
Total County	53	$ 490,690	733	$ 147,000
Saw and planing mill products	16	49,900	211	55,590
Naval stores, turpentine and rosin	10	231,650	361	39,200
Ginneries and products	7	11,000	21	4,016
Blacksmith & general repair works	7	2,050	20	5,360
Grist mill products	4	1,050	5	900
Miscellaneous single industries	9	195,040	115	41,934

TABLE NO. 4.—AVERAGE NUMBER WAGE EARNERS; SPECIFIED AGES; WAGES PAID.
Continued.

SPECIFIED INDUSTRIES BY COUNTIES.	Men 16 Years and Over.		Women 16 Years and Over.		Children Under 16 Years.		Greatest No. Employed at Any One Time During Year in Industry.	Least No. Employed at Any One Time During the Year in Industry.
	Average Number.	Wages.	Average Number.	Wages.	Average Number.	Wages.		
LEON.—Continued.								
Total county	733	$ 14,700	...	$	...	$.....	893	524
Saw and planing mill products	211	55,590	...	....	...	......	244	162
Naval stores, turpentine and rosin	361	39,200	...	....	...	......	436	257
Ginneries and products	21	4,016	...	....	...	......	26	18
Blacksmith & general repair works	20	5,360	...	....	...	......	20	13
Grist mill products	5	900	...	....	...	......	5	5
Miscellaneous single industries	115	41,934	...	....	...	......	162	69

TABLE NO. 4.—COST OF MATERIAL USED; VALUE OF PRODUCTS.—*Continued.*

SPECIFIED INDUSTRIES BY COUNTIES.	Mines and Mining Products — Character of Ores Mined—Phosphate—Tons.	Cost of Material and Value of Products.		Ginneries and Products.			
		Cost of Production and Material Used (including Mill or Mine Supplies and Fuel.)	Value of Work (including Custom Work and Repairing.)	No. Lbs. Lint Upland Cotton ginned at this Gin this Year.	No. Lbs. Lint Sea Island Cotton ginned at this Gin this Year.	No. Bushels Upland Cotton Seed.	No. Bushels Sea Island Cotton Seed
LEON.—Continued.							
Total County	....	$	$	....	....	......	......
Saw and planing mill products ..	....	....	....	....	....	......	......
Naval stores, turpentine and rosin	....	....	....	....	....	......	......
Ginneries and products	....	....	....	....	....	......	......
Blacksmith & general repair w'ks.	....	....	....	....	....	......	......
Grist mill products	....	....	....	....	....	......	......
Miscellaneous single industries ..	....	....	....	....	....	......	......

TABLE NO. 4.—SPECIFIED INDUSTRIES BY COUNTIES; AVERAGE NUMBER OF WAGE EARNERS; TOTAL WAGES PAID.—*Continued.*

SPECIFIED INDUSTRIES BY COUNTIES.	Number of Establishments Reporting.	Capital Invested (including lands, buildings, improvements, machinery, cash.)	Average Number Wage Earners.	Total Wages.
LEVY.—				
Total county	68	$ 1,675,033	2,186	$ 481,995
Saw mill products	10	547,033	759	154,560
Cedar mill products	4	38,500	155	32,540
Naval stores, turpentine and rosin	14	400,000	760	174,940
Irrigation and water supply works	14	36,000	33	3,500
Crate manufacture	2	91,000	101	14,630
Soda water manufacture	5	1,200	7	1,500
Fibre manufacture	2	35,000	45	11,400
Blacksmithing and repairing	4	4,000	6	2,000
Grist mill products	2	800	6	700
Miscellaneous single industries	11	521,500	314	86,225

TABLE NO. 4.—AVERAGE NUMBER WAGE EARNERS; SPECIFIED AGES; WAGES PAID. *Continued.*

SPECIFIED INDUSTRIES BY COUNTIES.	Men 16 Years and Over.		Women 16 Years and Over.		Children Under 16 Years.		Greatest No. Employed at Any One Time During Year in Industry.	Least No. Employed at Any One Time During the Year in Industry.
	Average Number.	Wages.	Average Number.	Wages.	Average Number.	Wages.		
LEVY.—Continued.								
Total county	2,111	$ 471,695	62	$ 7,740	27	$2,560	2,746	1,556
Saw mill products	759	154,560	...	....	...	......	886	551
Cedar Mill products	135	29,780	25	2,220	9	540	174	93
Naval stores, turpentine and rosin	756	174,580	...	....	4	360	910	600
Irrigation and water supply works	33	3,500	...	....	...	......	35	20
Crate manufacture	60	8,750	37	5,520	4	360	125	50
Soda water manufacture	7	1,500	...	....	...	......	7	7
Fibre manufacture	45	11,400	...	....	...	......	95	30
Blacksmithing and repairing	6	2,000	...	....	...	......	9	5
Grist mill products	6	700	...	....	...	......	6	6
Miscellaneous single industries	304	84,925	...	....	10	1,300	499	194

TABLE NO. 4.—COST OF MATERIAL USED; VALUE OF PRODUCTS.—*Continued.*

SPECIFIED INDUSTRIES BY COUNTIES.	Mines and Mining Products — Character of Ores Mined—Phosphate—Tons.	Cost of Material and Value of Products.		Ginneries and Products.			
		Cost of Production and Material Used (including Mill or Mine Suppies and Fuel.)	Value of Work (including Custom Work and Repairing.)	No. Lbs. Lint Upland Cotton ginned at this Gin this Year.	No. Lbs. Lint Sea Island Cotton ginned at this Gin this Year.	No. Bushels Upland Cotton Seed.	No. Bushels Sea Island Cotton Seed
LEVY.—Continued.							
Total County	....	$ 599,525	$ 1,804,860	35,000	35,000	1,600	1,800
Saw mill products	....	180,500	374,500	....	....	......	......
Cedar mill products	....	24,600	76,900	....	....	......	......
Naval stores, turpentine and rosin	....	249,500	526,670	....	....	......	......
Irrigation & water supply works.	....	3,750	15,000	....	....	......	......
Crate manufacture	....	35,275	76,150	....	....	......	......
Soda water manufacture	....	800	3,100	....	....	......	......
Fibre manufacture	....	13,000	27,540	....	....	......	......
Blacksmithing and repairing	....	1,500	3,300	....	....	......	......
Grist mill products	....	600	1,500	....	....	......	......
Miscellaneous single industries ..	100,000	90,000	700,200	35,000	35,000	1,600	1,800

TABLE NO. 4.—SPECIFIED INDUSTRIES BY COUNTIES; AVERAGE NUMBER OF WAGE EARNERS; TOTAL WAGES PAID.—*Continued.*

SPECIFIED INDUSTRIES BY COUNTIES.	Number of Establishments Reporting.	Capital Invested (including lands, buildings, improvements, machinery, cash.)	Average Number Wage Earners.	Total Wages.
LIBERTY.—				
Total County	50	$ 529,000	1,165	$ 277,300
Saw mill products	15	175,500	326	79,100
Naval stores, turpentine and rosin	30	347,500	826	194,700
Ginneries and products	2	2,000	5	1,000
Grist mill and products	2	2,000	2	500
Shingle manufacture	1	2,000	6	2,000

TABLE NO. 4.—AVERAGE NUMBER WAGE EARNERS; SPECIFIED AGES; WAGES PAID. *Continued.*

SPECIFIED INDUSTRIES BY COUNTIES.	Men 16 Years and Over.		Women 16 Years and Over.		Children Under 16 Years.		Greatest No. Employed at Any One Time During Year in Industry.	Least No. Employed at Any One Time During the Year in Industry.
	Average Number.	Wages.	Average Number.	Wages.	Average Number.	Wages.		
LIBERTY.—Continued.								
Total County	1,165	$ 277,300	...	$	...	$.....	1,333	744
Saw mill products	326	79,100	...	....	...	......	368	221
Naval stores, turpentine and rosin	826	194,700	...	....	...	......	950	515
Ginneries and products	5	1,000	...	....	...	......	5	2
Grist mill and products	2	500	...	....	...	......	2	2
Shingle manufacture	6	2,000	...	....	...	......	8	4

TABLE NO. 4.—COST OF MATERIAL USED; VALUE OF PRODUCTS.—*Continued.*

SPECIFIED INDUSTRIES BY COUNTIES.	Mines and Mining Products — Character of Ores Mined—Phosphate—Tons.	Cost of Material and Value of Products.		Ginneries and Products.			
		Cost of Production and Material Used (including Mill or Mine Supplies and Fuel.)	Value of Work (including Custom Work and Repairing.)	No. Lbs. Lint Upland Cotton ginned at this Gin this Year.	No. Lbs. Lint Sea Island Cotton ginned at this Gin this Year.	No. Bushels Upland Cotton Seed.	No. Bushels Sea Island Cotton Seed
LIBERTY.—Continued.							
Total County	....	$	$	100,000	....	2,000	......
Saw mill products	....	....	....	....	....	......	......
Naval stores, turpentine and rosin	....	....	....	....	....	......	......
Ginneries and products	....	....	....	100,000	....	2,000	......
Grist mill and products	....	....	....	....	....	......	......
Shingle manufacture	....	....	....	....	....	......	......

TABLE NO. 4.—SPECIFIED INDUSTRIES BY COUNTIES; AVERAGE NUMBER OF WAGE EARNERS; TOTAL WAGES PAID.—*Continued.*

SPECIFIED INDUSTRIES BY COUNTIES.	Number of Establishments Reporting.	Capital Invested (including lands, buildings, improvements, machinery, cash.)	Average Number Wage Earners.	Total Wages.
MADISON.—				
Total County	70	$ 788,767	1,202	$ 236,450
Saw mill products	16	.229,500	414	87,882
Naval stores, turpentine and rosin	15	267,987	557	91,338
Ginneries and products	18	208,500	120	31,795
Grist mill products	8	3,400	14	1,630
Blacksmith and repair works	7	6,380	11	4,265
Shingle manufacture	3	11,000	51	12,140
Miscellaneous single industries	3	62,000	35	7,400

TABLE NO. 4.—AVERAGE NUMBER WAGE EARNERS; SPECIFIED AGES; WAGES PAID.

Continued.

SPECIFIED INDUSTRIES BY COUNTIES.	Men 16 Years and Over.		Women 16 Years and Over.		Children Under 16 Years.		Greatest No. Employed at Any One Time During Year in Industry.	Least No. Employed at Any One Time During the Year in Industry.
	Average Number.	Wages.	Average Number.	Wages.	Average Number.	Wages.		
MADISON.—Continued.								
Total County	1,192	$ 236,150	...	$........	10	$ 300	1,469	921
Saw mill products	414	87,882	...	....	...	......	448	348
Naval stores, turpentine and rosin	547	91,038	...	....	10	300	700	433
Ginneries and products	120	31,795	...	....	...	......	197	56
Grist mill products	14	1,630	...	....	...	......	15	10
Blacksmith and repair work	11	4,265	...	....	...	......	13	11
Shingle manufacture	51	12,140	...	....	...	......	59	42
Miscellaneous single industries	35	7,400	...	....	...	......	37	21

TABLE NO. 4.—COST OF MATERIAL USED; VALUE OF PRODUCTS.—*Continued.*

SPECIFIED INDUSTRIES BY COUNTIES.	Mines and Mining Products — Character of Ores Mined—Phosphate—Tons.	Cost of Material and Value of Products.		Ginneries and Products.			
		Cost of Production and Material Used (including Mill or Mine Supplies and Fuel.)	Value of Work (including Custom Work and Repairing.)	No. Lbs. Lint Upland Cotton ginned at this Gin this Year.	No. Lbs. Lint Sea Island Cotton ginned at this Gin this Year.	No. Bushels Upland Cotton Seed.	No. Bushels Sea Island Cotton Seed
MADISON.—Continued							
Total County	....	$	$	1,409,710	2,585,951	39,378	163,394
Saw mill products	....	....	....	....	....	......	......
Naval stores, turpentine and rosin	....	....	....	....	....	......	......
Ginneries and products	....	....	....	1,409,710	2,585,951	39,378	163,394
Grist mill products	....	....	....	....	....	......	......
Blacksmith and repair work	....	....	....	....	....	......	......
Shingle manufacture	....	....	....	....	....	......	......
Miscellaneous single industries ..	....	....	....	....	....	......	......

TABLE NO. 4.—SPECIFIED INDUSTRIES BY COUNTIES; AVERAGE NUMBER OF WAGE EARNERS; TOTAL WAGES PAID.—*Continued.*

SPECIFIED INDUSTRIES BY COUNTIES.	Number of Establishments Reporting.	Capital Invested (including lands, buildings, improvements, machinery, cash.)	Average Number Wage Earners.	Total Wages.
ORANGE.—				
Total County	34	$ 789,300	636	$ 161,045
Saw mill products	6	150,500	153	16,180
Naval stores, turpentine and rosin	8	296,000	270	63,800
Blacksmith and repairing	3	1,100	5	2,200
Planing mill and novelty works	2	34,500	26	7,800
Wagon and carriage manufacture	2	14,000	14	4,800
Ice manufacture	2	120,000	37	12,500
Bottling works	2	10,500	6	28,000
Miscellaneous single industries	9	162,700	125	50,965

TABLE NO. 4.—AVERAGE NUMBER WAGE EARNERS; SPECIFIED AGES; WAGES PAID.

Continued.

SPECIFIED INDUSTRIES BY COUNTIES	Men 16 Years and Over.		Women 16 Years and Over.		Children Under 16 Years.		Greatest No. Employed at Any One Time During Year in Industry.	Least No. Employed at Any One Time During the Year in Industry.
	Average Number.	Wages.	Average Number.	Wages.	Average Number.	Wages.		
ORANGE.—continued								
Total County	618	$ 157,245	...	$	18	$3,800	798	461
Saw mill products	153	16,180	...	....	...	......	204	113
Naval stores, turpentine and rosin	258	61,300	...	....	12	2,500	325	202
Blacksmith and repairing	5	2,200	...	....	...	......	5	3
Planing mill and novelty works	26	7,800	...	....	...	......	32	21
Wagon and carriage manufacture	14	4,800	. .	....	...	......	19	8
Ice manufacture	37	12,500	...	....	...	......	47	15
Bottling works	6	2,800	...	....	...	......	7	5
Miscellaneous single industries	119	49,665	..	....	6	1,300	159	94

TABLE NO. 4.—COST OF MATERIAL USED; VALUE OF PRODUCTS.—*Continued.*

SPECIFIED INDUSTRIES BY COUNTIES.	Mines and Mining Products — Character of Ores Mined—Phosphate—Tons.	Cost of Material and Value of Products.		Ginneries and Products.			
		Cost of Production and Material Used (including Mill or Mine Supplies and Fuel.)	Value of Work (including Custom Work and Repairing.)	No. Lbs. Lint Upland Cotton ginned at this Gin this Year.	No. Lbs. Lint Sea Island Cotton ginned at this Gin this Year.	No. Bushels Upland Cotton Seed.	No. Bushels Sea Island Cotton Seed
ORANGE.—Continued.							
Total County	....	$ 314,104	$ 662,450	....	....	......	......
Saw mill products	....	75,524	182,400	....	....	......	......
Naval stores, turpentine and rosin	....	98,800	181,200	....	....	......	......
Blacksmith and repairing	....	650	1,600	....	....	......	......
Planing mill and novelty works	....	28,000	55,000	....	....	......	......
Wagon and carriage manufacture	....	14,200	26,000	....	....	......	......
Ice manufacture	....	6,500	32,000	....	....	......	......
Bottling works	....	11,000	19,000	....	....	......	......
Miscellaneous single industries	....	79,430	165,250	....	....	......	......

TABLE NO. 4.—SPECIFIED INDUSTRIES BY COUNTIES; AVERAGE NUMBER OF WAGE EARNERS; TOTAL WAGES PAID.—*Continued.*

SPECIFIED INDUSTRIES BY COUNTIES.	Number of Establishments Reporting.	Capital Invested (including lands, buildings, improvements, machinery, cash.)	Average Number Wage Earners.	Total Wages.
POLK.—				
Total County	17	$ 168,700	401	$ 50,997
Saw mill products	11	30,000	107	5,000
Naval stores, turpentine and rosin	4	38,500	143	15,750
Miscellaneous single industries	2	100,200	151	30,247

TABLE NO. 4.—AVERAGE NUMBER WAGE EARNERS; SPECIFIED AGES; WAGES PAID.

Continued.

SPECIFIED INDUSTRIES BY COUNTIES.	Men 16 Years and Over.		Women 16 Years and Over.		Children Under 16 Years.		Greatest No. Employed at Any One Time During Year in Industry.	Least No. Employed at Any One Time During the Year in Industry.
	Average Number.	Wages.	Average Number.	Wages.	Average Number.	Wages.		
POLK.—Continued.								
Total County	401	$ 50,997	...	$	...	$.....	418	161
Saw mill products	107	5,000	...	....	...	......	109	35
Naval stores, turpentine and rosin	143	15,750	...	....	...	......	158	75
Miscellaneous single industries	151	30,247	...	....	...	......	151	51

TABLE NO. 4.—COST OF MATERIAL USED; VALUE OF PRODUCTS.—*Continued.*

SPECIFIED INDUSTRIES BY COUNTIES.	Mines and Mining Products — Character of Ores Mined—Phosphate—Tons.	Cost of Material and Value of Products.		Ginneries and Products.			
		Cost of Production and Material Used (including Mill or Mine Supplies and Fuel.)	Value of Work (including Custom Work and Repairing.)	No. Lbs. Lint Upland Cotton ginned at this Gin this Year.	No. Lbs. Lint Sea Island Cotton ginned at this Gin this Year.	No. Bushels Upland Cotton Seed.	No. Bushels Sea Island Cotton Seed
POLK.—Continued.							
Total County	....	$	$	....	....	......	......
Saw mill products	....	....	....	....	....	......	......
Naval stores, turpentine and rosin	....	....	....	....	....	......	......
Miscellaneous single industries	....	....	....	....	....	......	......

TABLE NO. 4.—SPECIFIED INDUSTRIES BY COUNTIES; AVERAGE NUMBER OF WAGE EARNERS; TOTAL WAGES PAID.—*Continued.*

SPECIFIED INDUSTRIES BY COUNTIES.	Number of Establishments Reporting.	Capital Invested (including lands, buildings, improvements, machinery, cash.)	Average Number Wage Earners.	Total Wages.
SANTA ROSA.—				
Total County	84	$ 1,247,897	2,244	$ 617,444
Saw mill products	15	390,552	676	247,647
Naval stores, turpentine and rosin	45	704,500	1,453	333,765
Ginneries and products	4	3,750	11	800
Blacksmithing and repairing	4	1,925	5	2,652
Shipyard and marine ways	4	81,670	38	14,720
Women's tailoring & repair work	4	9,500	6	2,360
Miscellaneous single industries	8	56,000	55	15,500

TABLE NO. 4.—AVERAGE NUMBER WAGE EARNERS; SPECIFIED AGES; WAGES PAID.

Continued.

SPECIFIED INDUSTRIES BY COUNTIES.	Men 16 Years and Over.		Women 16 Years and Over.		Children Under 16 Years.		Greatest No. Employed at Any One Time During Year in Industry.	Least No. Employed at Any One Time During the Year in Industry.
	Average Number.	Wages.	Average Number.	Wages.	Average Number.	Wages.		
SANTA ROSA.—Continued.								
Total County	2,194	$ 613,694	3	$ 1,257	50	$3,750	2,473	1,729
Saw mill products	626	243,897	...	....	50	3,750	749	414
Naval stores, turpentine and rosin	1,453	333,765	3	1,275	...	......	1,586	1,232
Ginneries and products	11	800	...	....	...	......	12	11
Blacksmithing and repairing	5	2,652	...	....	...	......	5	5
Shipyard and marine ways	38	14,720	...	....	...	......	55	21
Women's tailoring & repair work	6	2,360	...	....	...	......	6	6
Miscellaneous single industries	55	15,500	...	....	...	......	60	40

TABLE NO. 4.—COST OF MATERIAL USED; VALUE OF PRODUCTS.—*Continued.*

SPECIFIED INDUSTRIES BY COUNTIES.	Mines and Mining Products — Character of Ores Mined—Phosphate—Tons.	Cost of Material and Value of Products.		Ginneries and Products.			
		Cost of Production and Material Used (including Mill or Mine Supplies and Fuel.)	Value of Work (including Custom Work and Repairing.)	No. Lbs. Lint Upland Cotton ginned at this Gin this Year.	No. Lbs. Lint Sea Island Cotton ginned at this Gin this Year.	No. Bushels Upland Cotton Seed.	No. Bushels Sea Island Cotton Seed
SANTA ROSA.—Continued.							
Total County	....	$ 1,371,372	$ 1,810,907	213,500	....	19,510	......
Saw mill products	....	836,225	1,005,700	....	....	......	......
Naval stores, turpentine and rosin	....	478,214	725,031	....	....	......	......
Ginneries and products	....	1,332	2,713	213,500	....	19,510	......
Blacksmithing and repairing	....	2,300	3,750	....	....	......	......
Shipyard and marine ways	....	20,730	30,136	....	....	......	......
Women's tailoring and repair w'k	....	4,645	6,882	....	....	......	......
Miscellaneous single industries ..	....	27,926	36,695	....	....	......	......

TABLE NO. 4.—SPECIFIED INDUSTRIES BY COUNTIES; AVERAGE NUMBER OF WAGE EARNERS; TOTAL WAGES PAID.—*Continued.*

SPECIFIED INDUSTRIES BY COUNTIES.	Number of Establishments Reporting.	Capital Invested (including lands, buildings, improvements, machinery, cash.)	Average Number Wage Earners.	Total Wages.
ST. JOHNS.—				
Total County	110	$ 1.781,360	1,257	$ 566,259
Saw mill & novelty works products	9	162,000	112	53,220
Naval stores, turpentine and rosin	28	879,500	757	287,500
Blacksmithing, carriage and wagon manufacturing	8	24,250	28	15,537
Cooperage works	3	22,000	26	7,800
Ice manufacture	2	90,000	24	12,000
Automobile and bicycle repairing	7	26,000	23	10,287
Men's tailoring and repairing	7	1,450	13	5,950
Shoe making and repairing	5	1,100	6	2,075
Cigar manufacture	3	26,000	65	54,200

TABLE NO. 4.—SPECIFIED INDUSTRIES BY COUNTIES; AVERAGE NUMBER OF WAGE EARNERS; TOTAL WAGES PAID.—*Continued.*

SPECIFIED INDUSTRIES BY COUNTIES.	Number of Establishments Reporting.	Capital Invested (including lands, buildings, improvements, machinery, cash.)	Average Number Wage Earners.	Total Wages.
ST. JOHNS.—Continued.				
Tin and machine repair works	7	$ 5,100	16	$ 8,885
Watch making and repairing	3	6,000	5	3,000
Book and job printing	3	104,000	65	35,250
Cabinet maker and repair works	5	1,800	12	7,930
Boat building and repairing	3	4,600	13	9,800
Miscellaneous single industries	17	427,560	92	52,825

TABLE NO. 4.—AVERAGE NUMBER WAGE EARNERS; SPECIFIED AGES; WAGES PAID. *Continued.*

SPECIFIED INDUSTRIES BY COUNTES.	Men 16 Years and Over.		Women 16 Years and Over.		Children Under 16 Years.		Greatest No. Employed at Any One Time During Year in Industry.	Least No. Employed at Any One Time During the Year in Industry.
	Average Number.	Wages.	Average Number.	Wages.	Average Number.	Wages.		
ST. JOHNS.—Continued.								
Total County	1,207	$ 543,019	50	$ 23,250	...	$.....	1,511	981
Saw mill and novelty works products	112	53,220	...	....	...	......	112	112
Naval stores, turpentine and rosin	727	287,500	...	....	...	......	897	527
Blacksmithing, carriage and wagon mfg	28	15,537	...	....	...	......	35	23
Cooperage works	26	7,800	...	....	...	......	31	26
Ice manufacture	24	12,000	...	....	...	......	28	18
Automobile & bicycle repairing	23	10,287	...	....	...	......	29	19
Men's tailoring and repairing	13	5,950	...	....	...	......	13	13
Shoe making and repairing	6	2,075	...	....	...	......	6	6
Cigar manufacture	65	54,200	...	....	...	......	71	65

TABLE NO. 4.—AVERAGE NUMBER WAGE EARNERS; SPECIFIED AGES; WAGES PAID.
Continued.

SPECIFIED INDUSTRIES BY COUNTES.	Men 16 Years and Over.		Women 16 Years and Over.		Children Under 16 Years.		Greatest No. Employed at Any One Time During Year in Industry.	Least No. Employed at Any One Time During the Year in Industry.
	Average Number.	Wages.	Average Number.	Wages.	Average Number.	Wages.		
ST. JOHNS.—Continued.								
Tin and machine repair works	16	$ 8,885	...	$	...	......	16	16
Watch making and repairing	5	3,000	...	....	...	......	5	5
Book and job printing	15	12,000	50	23,250	...	......	115	65
Cabinet maker and repair works	12	7,930	...	....	...	......	15	10
Boat building and repairing	13	9,800	...	....	...	......	16	10
Miscellaneous single industries	92	52,825	...	....	...	......	122	66

TABLE NO. 4.—COST OF MATERIAL USED; VALUE OF PRODUCTS.—*Continued.*

SPECIFIED INDUSTRIES BY COUNTIES.	Mines and Mining Products — Character of Ores Mined—Phosphate—Tons.	Cost of Material and Value of Products.		Ginneries and Products.			
		Cost of Production and Material Used (including Mill or Mine Supplies and Fuel.)	Value of Work (including Custom Work and Repairing.)	No. Lbs. Lint Upland Cotton ginned at this Gin this Year.	No. Lbs. Lint Sea Island Cotton ginned at this Gin this Year.	No. Bushels Upland Cotton Seed.	No. Bushels Sea Island Cotton Seed
ST. JOHNS.—Continued.							
Total County	......	$	$	......	......	......	......
Saw mill & noveltyw'ks. products	......	......	......	......	......	......	......
Naval stores, turpentine and rosin	......	......	......	......	......	......	......
Blacksmit'hg, carriage & wag. mfg	......	......	......	......	......	......	......
Cooperage works	......	......	......	......	......	......	......
Ice manufacture	......	......	......	......	......	......	......
Automobile and bicycle repairing	......	......	......	......	......	......	......
Men's tailoring and repairing	......	......	......	......	......	......	......
Shoe making and repairing	......	......	......	......	......	......	......
Cigar manufacture	......	......	......	......	......	......	......
Tin and machine repair works	......	......	......	......	......	......	......

TABLE NO. 4.—COST OF MATERIAL USED; VALUE OF PRODUCTS.—*Continued.*

SPECIFIED INDUSTRIES BY COUNTIES.	Mines and Mining Products — Character of Ores Mined—Phosphate—Tons.	Cost of Material and Value of Products.		Ginneries and Products.			
		Cost of Production and Material Used (including Mill or Mine Supplies and Fuel.)	Value of Work (including Custom Work and Repairing.)	No. Lbs. Lint Upland Cotton ginned at this Gin this Year.	No. Lbs. Lint Sea Island Cotton ginned at this Gin this Year.	No. Bushels Upland Cotton Seed.	No. Bushels Sea Island Cotton Seed
ST. JOHNS.—Continued.							
Watch making and repairing ...	....	$	$	....	....	......	......
Book and job printing	....	....	....	....	....	......	......
Cabinet maker and repair works	....	....	....	....	....	......	......
Boat building and repairing	....	....	....	....	....	......	......
Miscellaneous single industries ..	....	....	....	....	....	......	......

TABLE NO. 4.—SPECIFIED INDUSTRIES BY COUNTIES; AVERAGE NUMBER OF WAGE EARNERS; TOTAL WAGES PAID.—*Continued.*

SPECIFIED INDUSTRIES BY COUNTIES.	Number of Establishments Reporting.	Capital Invested (including lands, buildings, improvements, machinery, cash.)	Average Number Wage Earners.	Total Wages.
ST. LUCIE.—				
Total County	46	$ 230,408	342	$ 221,057
Saw mill products	2	3,500	15	8,496
Fish packers	19	161,208	273	174,552
Boat building and repairing	4	5,500	8	6,210
Contracting and building	3	1,750	8	6,276
Blacksmithing, wagon building and machine works	5	9,900	8	5,428
Ice manufacture	2	24,000	9	5,400
Book, paper and job printing	2	12,500	6	3,205
Plumbing and repair works	2	1,250	3	2,100
Miscellaneous single industries	7	10,800	12	9,390

TABLE NO. 4.—AVERAGE NUMBER WAGE EARNERS; SPECIFIED AGES; WAGES PAID.

Continued.

SPECIFIED INDUSTRIES BY COUNTIES	Men 16 Years and Over.		Women 16 Years and Over.		Children Under 16 Years.		Greatest No. Employed at Any One Time During Year in Industry.	Least No. Employed at Any One Time During the Year in Industry.
	Average Number.	Wages.	Average Number.	Wages.	Average Number.	Wages.		
ST. LUCIE.—Continued.								
Total County	342	$ 221,057	...	$	...	$.....	714	163
Saw mill products	15	8,496	...	....	...	......	24	9
Fish packers	273	174,552	...	....	...	......	571	120
Boat building and repairing	8	6,210	...	....	...	......	18	5
Contracting and building	8	6,276	...	....	...	......	30	3
Blacksmithing, wagon building & machine w'ks	8	5,428	...	....	...	......	12	5
Ice manufacture	9	5,400	...	....	...	......	9	5
Book, paper and job printing	6	3,205	...	....	...	......	10	4
Plumbing and repair works	3	2,100	...	....	...	......	10	2
Miscellaneous single industries	12	9,390	...	....	...	......	30	10

TABLE NO. 4.—COST OF MATERIAL USED; VALUE OF PRODUCTS.—*Continued.*

SPECIFIED INDUSTRIES BY COUNTIES.	Mines and Mining Products — Character of Ores Mined—Phosphate—Tons.	Cost of Material and Value of Products.		Ginneries and Products.			
		Cost of Production and Material Used (including Mill or Mine Supplies and Fuel.)	Value of Work (including Custom Work and Repairing.)	No. Lbs. Lint Upland Cotton ginned at this Gin this Year.	No. Lbs. Lint Sea Island Cotton ginned at this Gin this Year.	No. Bushels Upland Cotton Seed.	No. Bushels Sea Island Cotton Seed
ST. LUCIE.—Continued.							
Total County	....	$ 336,299	$ 470,145	....	....	......	......
Saw mill products	....	23,060	26,232	....	....	......	......
Fish packers	....	220,269	321,710	....	....	......	......
Boat building and repairing	....	9,240	10,585	....	....	......	......
Contracting and building	....	17,796	21,286	....	....	......	......
Blacksmithing, wagon building and machine works	....	17,480	23,064	....	....	......	......
Ice manufacture	....	16,192	21,000	....	....	......	......
Book, paper and job printing	....	4,272	8,617	....	....	......	......
Plumbing and repair works	....	10,800	15,000	....	....	......	......
Miscellaneous single industries ..	....	17,190	22,651	....	....	......	......

TABLE NO. 4.—SPECIFIED INDUSTRIES BY COUNTIES; AVERAGE NUMBER OF WAGE EARNERS; TOTAL WAGES PAID.—*Continued.*

SPECIFIED INDUSTRIES BY COUNTIES.	Number of Establishments Reporting.	Capital Invested (including lands, buildings, improvements, machinery, cash.)	Average Number Wage Earners.	Total Wages.
SUMTER.—				
Total County	46	$ 221,500	256	$ 38,025
Saw mill products	3	130,400	111	6,000
Naval stores, turpentine and rosin	2	20,000	60	18,000
Irrigating plants & water supply works	36	63,500	65	5,400
Miscellaneous single industries	5	7,600	20	8,625

TABLE NO. 4.—AVERAGE NUMBER WAGE EARNERS; SPECIFIED AGES; WAGES PAID.
Continued.

SPECIFIED INDUSTRIES BY COUNTIES	Men 16 Years and Over.		Women 16 Years and Over.		Children Under 16 Years.		Greatest No. Employed at Any One Time During Year in Industry.	Least No. Employed at Any One Time During the Year in Industry.
	Average Number.	Wages.	Average Number.	Wages.	Average Number.	Wages.		
SUMTER.—Continued.								
Total County	256	$ 38,025	...	$	...	$.....	316	152
Saw mill products	111	6,000	...	$	...	......	125	70
Naval stores, turpentine and rosin	60	18,000	...	....	...	......	85	30
Irrigating plants and water supply works	65	5,400	...	....	...	......	75	40
Miscellaneous single industries	20	8,625	...	....	...	......	31	12

TABLE NO. 4.—COST OF MATERIAL USED; VALUE OF PRODUCTS.—*Continued.*

SPECIFIED INDUSTRIES BY COUNTIES.	Mines and Mining Products — Character of Ores Mined—Phosphate—Tons.	Cost of Material and Value of Products.		Ginneries and Products.			
		Cost of Production and Material Used (including Mill or Mine Supplies and Fuel.)	Value of Work (including Custom Work and Repairing.)	No. Lbs. Lint Upland Cotton ginned at this Gin this Year.	No. Lbs. Lint Sea Island Cotton ginned at this Gin this Year.	No. Bushels Upland Cotton Seed.	No. Bushels Sea Island Cotton Seed
SUMTER.—Continued.							
Total County	....	$	$	....	....	......	......
Saw mill products	....	....	....	....	....	......	......
Naval stores, turpentine and rosin	....	....	....	....	....	......	......
Irrigating plants & water sup. wks	....	....	....	....	....	......	......
Miscellaneous single industries ..	....	....	....	....	....	......	......

TABLE NO. 4.—SPECIFIED INDUSTRIES BY COUNTIES; AVERAGE NUMBER OF WAGE EARNERS; TOTAL WAGES PAID.—*Continued.*

SPECIFIED INDUSTRIES BY COUNTIES.	Number of Establishments Reporting.	Capital Invested (including lands, buildings, improvements, machinery, cash.)	Average Number Wage Earners.	Total Wages.
SUWANNEE.—				
Total County	77	$ 2,468,600	1,088	$ 283,450
Saw mill products	6	2,195,000	375	110,500
Crosstie manufacture	50	34,200	468	115,200
Naval stores, turpentine and rosin	4	92,000	70	20,500
Ginneries and products	12	46,200	115	10,050
Blacksmithing, machinery and repairing	3	51,000	29	17,000
Miscellaneous single industries	2	50,200	31	10,200

TABLE NO. 4.—AVERAGE NUMBER WAGE EARNERS; SPECIFIED AGES; WAGES PAID.

Continued.

SPECIFIED INDUSTRIES BY COUNTIES	Men 16 Years and Over.		Women 16 Years and Over.		Children Under 16 Years.		Greatest No. Employed at Any One Time During Year in Industry.	Least No. Employed at Any One Time During the Year in Industry.
	Average Number.	Wages.	Average Number.	Wages.	Average Number.	Wages.		
SUWANNEE.—Continued.								
Total County	1,088	$ 283,450	...	$	...	$.....	1,408	694
Saw mill products	375	110,500	...	....	...	......	452	265
Crosstie manufacture	468	115,200	...	....	...	......	668	271
Naval stores, turpentine and rosin	70	20,500	...	....	...	......	94	43
Ginneries and products	115	10,050	...	....	...	......	120	71
Blacksmithing, machinery and repairing	29	17,000	...	....	...	......	38	20
Miscellaneous single industries	31	10,200	...	....	...	......	36	24

TABLE NO. 4.—COST OF MATERIAL USED; VALUE OF PRODUCTS.—*Continued.*

SPECIFIED INDUSTRIES BY COUNTIES.	Mines and Mining Products — Character of Ores Mined—Phosphate—Tons.	Cost of Material and Value of Products.		Ginneries and Products.			
		Cost of Production and Material Used (including Mill or Mine Supplies and Fuel.)	Value of Work (including Custom Work and Repairing.)	No. Lbs. Lint Upland Cotton ginned at this Gin this Year.	No. Lbs. Lint Sea Island Cotton ginned at this Gin this Year.	No. Bushels Upland Cotton Seed.	No. Bushels Sea Island Cotton Seed
SUWANNEE.—Continued.							
Total County	....	$ 852,510	$ 1,267,800	....	2,030,000	......	93,000
Saw mill products	....	544,500	840,000	....	....	......	......
Crosstie manufacture	....	194,900	249,000	....	....	......	......
Naval stores, turpentine and rosin	....	33,000	54,000	....	....	......	......
Ginneries and products	....	14,410	38,800	....	2,030,000	......	93,000
Blacksmithing, machinery and repairing	....	28,000	40,000	....	....	......	......
Miscellaneous single industries	....	37,700	46,000	....	....	......	......

TABLE NO. 4.—SPECIFIED INDUSTRIES BY COUNTIES; AVERAGE NUMBER OF WAGE EARNERS; TOTAL WAGES PAID.—*Continued.*

SPECIFIED INDUSTRIES BY COUNTIES.	Number of Establishments Reporting.	Capital Invested (including lands, buildings, improvements, machinery, cash.)	Average Number Wage Earners.	Total Wages.
TAYLOR.—				
Total County	21	$ 284,500	927	$ 464,400
Saw mill products	6	91,000	294	152,000
Naval stores, turpentine and rosin	10	182,000	610	306,000
Ginneries and products	3	2,500	15	1,100
Miscellaneous single industries	2	9,000.	8	5,300

TABLE NO. 4.—AVERAGE NUMBER WAGE EARNERS; SPECIFIED AGES; WAGES PAID.
Continued.

SPECIFIED INDUSTRIES BY COUNTIES	Men 16 Years and Over.		Women 16 Years and Over.		Children Under 16 Years.		Greatest No. Employed at Any One Time During Year in Industry.	Least No. Employed at Any One Time During the Year in Industry.
	Average Number.	Wages.	Average Number.	Wages.	Average Number.	Wages.		
TAYLOR.—Continued.								
Total County	697	$ 405,800	...	$	230	$58,600	1,082	466
Saw mill products	294	152,000	...	....	...	....	350	200
Naval stores, turpentine and rosin	380	247,400	...	....	230	58,600	705	250
Ginneries and products	15	1,100	...	....	...	....	17	9
Miscellaneous single industries	8	5,300	...	....	...	....	10	7

TABLE NO. 4.—COST OF MATERIAL USED; VALUE OF PRODUCTS.—*Continued.*

SPECIFIED INDUSTRIES BY COUNTIES.	Mines and Mining Products — Character of Ores Mined—Phosphate—Tons.	Cost of Material and Value of Products.		Ginneries and Products.			
		Cost of Production and Material Used (including Mill or Mine Supplies and Fuel.)	Value of Work (including Custom Work and Repairing.)	No. Lbs. Lint Upland Cotton ginned at this Gin this Year.	No. Lbs. Lint Sea Island Cotton ginned at this Gin this Year.	No. Bushels Upland Cotton Seed.	No. Bushels Sea Island Cotton Seed
TAYLOR.—Continued.							
Total County	....	$	$	....	14,400	......	7,200
Saw mill products	....	....	....	....	....	......	......
Naval stores, turpentine and rosin	....	....	....	....	....	......	......
Ginneries and products	....	....	....	....	14,400	......	7,200
Miscellaneous single industries ..	....	....	....	....	....	......	......

TABLE NO. 4.—SPECIFIED INDUSTRIES BY COUNTIES; AVERAGE NUMBER OF WAGE EARNERS; TOTAL WAGES PAID.—*Continued.*

SPECIFIED INDUSTRIES BY COUNTIES.	Number of Establishments Reporting.	Capital Invested (including lands, buildings, improvements, machinery, cash.)	Average Number Wage Earners.	Total Wages.
VOLUSIA.—				
Total County	99	$ 818,680	1,251	$ 315,700
Saw mill products	9	178,500	231	49,650
Naval stores, turpentine and rosin	14	398,000	535	106,000
Fruit packing houses	4	20,000	245	32,500
Shell mining	3	9,500	12	4,500
Newspaper, book and job printing	8	67,200	44	21,400
Wood working and cutting	11	15,475	31	11,700
Automobile and bicycle repairing	8	36,600	23	20,550
Plumbing and tin repair work	4	4,700	7	5,450
Laundrys	6	5,150	15	5,600

TABLE NO. 4.—SPECIFIED INDUSTRIES BY COUNTIES; AVERAGE NUMBER OF WAGE EARNERS; TOTAL WAGES PAID.—*Continued.*

SPECIFIED INDUSTRIES BY COUNTIES.	Number of Establishments Reporting.	Capital Invested (including lands, buildings, improvements, machinery, cash.)	Average Number Wage Earners.	Total Wages.
VOLUSIA.—Continued.				
Blacksmithing and repairing	3	$ 3,900	7	$ 5,100
Tailoring and repairing	4	1,625	8	3,700
Fish and oyster packing houses	3	1,700	24	18,000
Ship yards and boat building	3	20,500	12	6,100
Bakeries and confectionery	5	2,500	16	5,950
Irrigation plants & water supply	5	4,230	7	2,900
Miscellaneous single industries	9	49,100	34	16,600

TABLE NO. 4.—AVERAGE NUMBER WAGE EARNERS; SPECIFIED AGES; WAGES PAID.

Continued.

SPECIFIED INDUSTRIES BY COUNTIES	Men 16 Years and Over.		Women 16 Years and Over.		Children Under 16 Years.		Greatest No. Employed at Any One Time During Year in Industry.	Least No. Employed at Any One Time During the Year in Industry.
	Average Number.	Wages.	Average Number.	Wages.	Average Number.	Wages.		
VOLUSIA.—Continued.								
Total County	1,250	$ 315,200	1	$ 500	8	$1,450	1,572	822
Saw mill products	231	49,650	...	....	...	......	258	142
Naval stores, turpentine and rosin	535	106,000	...	....	...	......	628	375
Fruit packing houses	145	32,500	...	....	...	......	305	125
Shell mining	12	4,500	...	....	...	......	15	10
Newspaper, book and job printing	44	21,400	...	....	...	......	53	32
Wood working and cutting	31	11,700	...	....	...	......	50	18
Automobile and bicycle repairing	23	20,550	...	....	...	......	41	14
Plumbing and tin repair work	7	5,450	...	....	...	......	10	7
Laundries	14	5,100	1	500	...	......	24	13

TABLE NO. 4.—AVERAGE NUMBER WAGE EARNERS; SPECIFIED AGES; WAGES PAID.
Continued.

SPECIFIED INDUSTRIES BY COUNTIES	Men 16 Years and Over.		Women 16 Years and Over.		Children Under 16 Years.		Greatest No. Employed at Any One Time During Year in Industry.	Least No. Employed at Any One Time During the Year in Industry.
	Average Number.	Wages.	Average Number.	Wages.	Average Number.	Wages.		
VOLUSIA.—Continued.								
Blacksmithing and repairing	7	$ 5,100	...	$	...	$.....	11	6
Tailoring and repairing	8	3,700	...	....	...	......	13	6
Fish and oyster packing houses	24	18,000	...	....	...	......	41	17
Ship yards and boat building	12	6,100	...	....	...	......	30	10
Bakeries and confectionery	8	4,500	...	....	8	1,450	24	11
Irrigation plants & water supply	7	2,900	...	....	...	......	8	6
Miscellaneous single industries	34	16,600	...	....	...	......	61	30

TABLE NO. 4.—COST OF MATERIAL USED; VALUE OF PRODUCTS.—*Continued.*

SPECIFIED INDUSTRIES BY COUNTIES.	Mines and Mining Products — Character of Ores Mined—Phosphate—Tons.	Cost of Material and Value of Products.		Ginneries and Products.			
		Cost of Production and Material Used (including Mill or Mine Supplies and Fuel.)	Value of Work (including Custom Work and Repairing.)	No. Lbs. Lint Upland Cotton ginned at this Gin this Year.	No. Lbs. Lint Sea Island Cotton ginned at this Gin this Year.	No. Bushels Upland Cotton Seed.	No. Bushels Sea Island Cotton Seed
VOLUSIA.—Continued.							
Total County	....	$ 454,450	$ 817,900	....	....	......	......
Saw mill products	....	54,500	104,000	....	....	......	......
Naval stores, turpentine and rosin	....	162,400	266,000	....	....	......	......
Fruit packing houses	....	33,400	58,000	....	....	......	......
Shell mining	....	8,000	11,400	....	....	......	......
Newspaper, book and job printing	....	29,100	76,700	....	....	......	......
Wood working and cutting	....	16,300	24,200	....	....	......	......
Automobile and bicycle repairing	....	15,000	43,000	....	....	......	......
Plumbing and tin repair work ..	....	9,900	17,000	....	....	......	......
Laundries	....	6,600	10,800	....	....	......	......

TABLE NO. 4.—COST OF MATERIAL USED; VALUE OF PRODUCTS.—*Continued.*

SPECIFIED INDUSTRIES BY COUNTIES.	Mines and Mining Products — Character of Ores Mined—Phosphate—Tons.	Cost of Material and Value of Products.		Ginneries and Products.			
		Cost of Production and Material Used (Including Mill or Mine Supplies and Fuel.)	Value of Work (including Custom Work and Repairing.)	No. Lbs. Lint Upland Cotton ginned at this Gin this Year.	No. Lbs. Lint Sea Island Cotton ginned at this Gin this Year.	No. Bushels Upland Cotton Seed.	No. Bushels Sea Island Cotton Seed
VOLUSIA.—Continued.							
Blacksmithing and repairing	....	$ 8,000	$ 18,000	....	....	......	......
Tailoring and repairing	....	2,300	7,600	....	....	......	......
Fish and oyster packing houses ..	....	22,000	30,000	....	....	......	......
Ship yards and boat building ..	....	24,400	48,700	....	....	......	......
Bakeries and confectionery	....	24,650	42,300	....	....	......	......
Irrigation plants and water sup.	....	3,400	7,400	....	....	......	......
Miscellaneous single industries ..	....	34,500	52,800	....	....	......	......

TABLE NO. 4.—SPECIFIED INDUSTRIES BY COUNTIES; AVERAGE NUMBER OF WAGE EARNERS; TOTAL WAGES PAID.—*Continued.*

SPECIFIED INDUSTRIES BY COUNTIES.	Number of Establishments Reporting.	Capital Invested (including lands, buildings, improvements, machinery, cash.)	Average Number Wage Earners.	Total Wages.
WAKULLA.—				
Total County	16	$ 34,850	364	$ 107,400
Saw mill products	3	4,500	27	6,800
Naval stores, turpentine and rosin	9	29,300	329	98,700
Grist mill products	2	300	3	400
Miscellaneous single industries	2	750	5	1,500

TABLE NO. 4.—AVERAGE NUMBER WAGE EARNERS; SPECIFIED AGES; WAGES PAID.

Continued.

SPECIFIED INDUSTRIES BY COUNTIES	Men 16 Years and Over.		Women 16 Years and Over.		Children Under 16 Years.		Greatest No. Employed at Any One Time During Year in Industry.	Least No. Employed at Any One Time During the Year in Industry.
	Average Number.	Wages.	Average Number.	Wages.	Average Number.	Wages.		
WAKULLA.—Continued.								
Total County	267	$ 78,400	...	$	97	$29,000	394	220
Saw mill products	24	6,000	...	....	3	800	32	13
Naval stores, turpentine and rosin	235	70,500	...	....	94	28,200	353	203
Grist mill products	3	400	...	....	...	....	4	2
Miscellaneous single industries	5	1,500	...	....	...	....	5	2

TABLE NO. 4.—COST OF MATERIAL USED; VALUE OF PRODUCTS.—*Continued.*

SPECIFIED INDUSTRIES BY COUNTIES.	Mines and Mining Products — Character of Ores Mined—Phosphate—Tons.	Cost of Material and Value of Products.		Ginneries and Products.			
		Cost of Production and Material Used (Including Mill or Mine Supplies and Fuel.)	Value of Work (including Custom Work and Repairing.)	No. Lbs. Lint Upland Cotton ginned at this Gin this Year.	No. Lbs. Lint Sea Island Cotton ginned at this Gin this Year.	No. Bushels Upland Cotton Seed.	No. Bushels Sea Island Cotton Seed
WAKULLA.—Continued.							
Total County	....	$	$	....	....	....	......
Saw mill products	....	....	....	....	....	....	......
Naval stores, turpentine and rosin	....	....	....	....	....	....	......
Grist mill products	....	....	....	....	....	....	......
Miscellaneous single industries ..	....	....	....	....	....	....	......

TABLE NO. 4.—SPECIFIED INDUSTRIES BY COUNTIES; AVERAGES NUMBER OF WAGE EARNERS; TOTAL WAGES PAID.—*Continued.*

SPECIFIED INDUSTRIES BY COUNTIES.	Number of Establishments Reporting.	Capital Invested (including lands, buildings, improvements, machinery, cash.)	Average Number Wage Earners.	Total Wages.
WALTON.—				
Total County	61	$ 1,843,615	1,782	$ 634,080
Saw mill products	17	658,000	761	265,430
Naval stores, turpentine and rosin	19	1,177,000	977	345,150
Grist mill products	2	2,600	7	2,400
Blacksmithing and repairing	6	935	6	4,200
Contracting and building	14	1,380	22	8,800
Miscellaneous single industries	3	3,700	9	8,100

TABLE NO. 4.—AVERAGE NUMBER WAGE EARNERS; SPECIFIED AGES; WAGES PAID.
Continued.

SPECIFIED INDUSTRIES BY COUNTIES.	Men 16 Years and Over.		Women 16 Years and Over.		Children Under 16 Years.		Greatest No. Employed at Any One Time During Year in Industry.	Least No. Employed at Any One Time During the Year in Industry.
	Average Number.	Wages.	Average Number.	Wages.	Average Number.	Wages.		
WALTON.—Continued.								
Total County	1,782	$ 634,080	...	$	...	$.....	2,260	1,235
Saw mill products	761	265,430	...	....	...	......	945	518
Naval stores, turpentine and rosin	977	345,150	...	....	...	......	1,255	683
Grist mill products	7	2,400	...	....	...	......	10	5
Blacksmithing and repairing	6	4,200	...	....	...	......	6	6
Contracting and building	22	8,800	...	....	...	......	35	14
Miscellaneous single industries	9	8,100	...	....	...	......	9	9

TABLE NO. 4.—COST OF MATERIAL USED; VALUE OF PRODUCTS.—*Continued.*

SPECIFIED INDUSTRIES BY COUNTIES.	Mines and Mining Products — Character of Ores Mined—Phosphate—Tons.	Cost of Material and Value of Products.		Ginneries and Products.			
		Cost of Production and Material Used (including Mill or Mine Supplies and Fuel.)	Value of Work (including Custom Work and Repairing.)	No. Lbs. Lint Upland Cotton ginned at this Gin this Year.	No. Lbs. Lint Sea Island Cotton ginned at this Gin this Year.	No. Bushels Upland Cotton Seed.	No. Bushels Sea Island Cotton Seed
WALTON.—Continued.							
Total County	....	$	$	....	....	......	......
Saw mill products	....	....	....	....	....	......	......
Naval stores, turpentine and rosin	....	....	....	....	....	......	......
Grist mill products	....	....	....	....	....	......	......
Blacksmithing and repairing	....	....	....	....	....	......	......
Contracting and building	....	....	....	....	....	......	......
Miscellaneous single industries ..	....	....	....	....	....	......	......

TABLE NO. 4.—SPECIFIED INDUSTRIES BY COUNTIES; AVERAGES NUMBER OF WAGE EARNERS; TOTAL WAGES PAID.—*Continued.*

SPECIFIED INDUSTRIES BY COUNTIES.	Number of Establishments Reporting.	Capital Invested (including lands, buildings, improvements, machinery, cash.)	Average Number Wage Earners.	Total Wages.
WASHINGTON.—				
Total County	66	$ 1,924,925	2,233	$ 383,710
Saw mill products	18	1,152,500	1,240	252,200
Naval stores, turpentine and rosin	26	751,700	937	124,660
Blacksmithing and repairing	9	5,775	12	2,900
Grist mill products	9	11,750	37	2,400
Cooperage	2	200	2	300
Ginneries and products	2	3,000	5	1,250

TABLE NO. 4.—AVERAGE NUMBER WAGE EARNERS; SPECIFIED AGES; WAGES PAID.

Continued.

SPECIFIED INDUSTRIES BY COUNTIES.	Men 16 Years and Over.		Women 16 Years and Over.		Children Under 16 Years.		Greatest No. Employed at Any One Time During Year in Industry.	Least No. Employed at Any One Time During the Year in Industry.
	Average Number.	Wages.	Average Number.	Wages.	Average Number.	Wages.		
WASHINGTON.—Continued.								
Total County	2,195	$ 369,110	10	$ 1,000	28	$4,600	2,665	1,432
Saw mill products	1,232	241,600	...	....	8	1,600	1,400	695
Naval stores, turpentine and rosin	907	120,660	10	1,000	20	3,000	1,201	705
Blacksmithing and repairing	12	2,900	...	....	...	......	12	12
Grist mill products	37	2,400	...	....	...	......	42	14
Cooperage	2	300	...	....	...	......	2	2
Ginneries and products	5	1,250	...	....	...	......	8	4

TABLE NO. 4.—COST OF MATERIAL USED; VALUE OF PRODUCTS.—*Continued.*

SPECIFIED INDUSTRIES BY COUNTIES.	Mines and Mining Products — Character of Ores Mined—Phosphate—Tons.	Cost of Material and Value of Products.		Ginneries and Products.			
		Cost of Production and Material Used (including Mill or Mine Supplies and Fuel.)	Value of Work (including Custom Work and Repairing.)	No. Lbs. Lint Upland Cotton ginned at this Gin this Year.	No. Lbs. Lint Sea Island Cotton ginned at this Gin this Year.	No. Bushels Upland Cotton Seed.	No. Bushels Sea Island Cotton Seed
WASHINGTON.—Continued.							
Total County	....	$ 754,460	$ 4,017,140	73,000	....	6,500	......
Saw mill products	....	452,000	3,508,200	....	....	......	......
Naval stores, turpentine and rosin	....	283,450	478,350	....	....	......	......
Blacksmithing and repairing	....	8,890	14,650	....	....	......	......
Grist mill products	....	9,300	13,010	....	....	......	......
Cooperage	....	350	950	....	....	......	......
Ginneries and products	....	470	1,980	73,000	....	6,500	......

Fertilizer and Stock Feed Division.

FERTILIZER AND STOCK FEED DIVISION.

Our fertilizer and stock feed laws are constructed along the same plan. The stock feed law having been enacted some years after our fertilizer law, the latter having been found to be perhaps the most practical and satisfactory of any fertilizer law in operation in any of the Southern States, we framed our stock feed law after the same model, and since placing the same in operation we have had no cause for regret, as it has proven as efficient and satisfactory as the fertilizer law.

It being much more easy to find and place a specific value upon the different important ingredients constituting the compound of fertilizers than those used in the mixture of stock feed, our stock feed law, perhaps, needs some amendments or the passage of a special act in connection with stock feed that will give us by legislative enactment specific standards for some of our stock feed. This policy having been adopted in other States has left Florida more subject to being imposed upon by lower grades of feed stuffs than are permitted to be sold in many other States.

I approve of the recommendations of the State Chemist on this subject. The consumer of feeds is much more easily imposed upon even with guaranteed analyses for stock feed than he is when purchasing fertilizers, as the Department has been able to furnish to the consumer, with a comparative degree of certainty, the value of each unit constituting a part of any fertilizer compound. With our quarterly bulletins the Department has disseminated information by keeping tables constantly standing in said bulletins giving information upon questions of value in connection with fertilizers.

Scientific investigations, experiments and analyses by the laboratories of our own State, as well as those of other States and of the United States Government, have so far not been able to furnish specific, detailed and intelligent bases for value for each unit of protein, fats, carbohydrates or sugars and starches, so that we can advise the consumer when a feed analyzes a certain per cent of each of the above ingredients it should have a certain market value, while in the matter of fertilizers, the consumer has but little trouble in making an estimate from the guaranteed analysis just what the goods are worth. Hence, the importance of having prescribed limitations for the minimum per cents of proteins, fats and carbo-hydrates that must be present in a stock feed that it may be entitled to a position on our market as a standard feed.

Prior to the meeting of the Legislature of 1909, we found the manufacturers, mixers and vendors of cotton seed meal were furnishing the consuming public with this class of goods, bearing, it is true, in most cases, a proper guaranteed analysis as to its ammonia content, but having found a method by which their low grade or *dark* meal would have the appearance of a high grade or *bright* cotton seed meal, and the purchasing public having learned to purchase cotton seed meal more from its color than from its guaranteed analysis, the consuming public was paying high grade prices for the low grade quality.

On application to the Legislature, with explanations concerning the existing conditions, the Legislature promptly passed an act, being Chapter 5955, Laws of Florida, Acts of 1909, which fixed proper and legitimate standards for cotton seed meal to be sold in this State. The title of the said act is in the following language:

"AN ACT to Fix the Standard of Cotton Seed Meal sold in this State; to Prohibit the Sale of Inferior Cotton Seed Meal without Notice to the Public; to Prohibit the Misbranding of Cotton Seed Meal; and Providing Penalties for Violation of this Act."

Under the provisions of this statute all *bright* or high grade cotton seed meal is required to bear not less than 7.50 per cent of ammonia (or 6.18 per cent of nitrogen). Any cotton seed meal sold as *bright,* or high grade, falling below the above named percentage of ammonia, must bear on the guaranteed analysis tag, plainly printed, the words —"SECOND CLASS COTTONSEED MEAL." In the case of *dark* meal made from the long staple cottonseed, the percentage of ammonia must not be less than 4.50 per cent. In the event it falls below said per cent the guaranteed analysis tag must have plainly printed on same the same words as above stated for the high grade goods.

With these plain statements of facts there can be no excuse for a consumer being imposed upon by any designing vendor or manufacturer. This is not only a protection to the consumer, but it as well protects the manufacturers of pure cottonseed meal.

THE PLAN OF OUR SYSTEM.

Under the plan presented by our fertilizer and stock feed laws, the responsibility is first placed upon the manufacturer to have his goods come up to the standard he guarantees them to contain as represented by his guaranteed analysis.

Before any manufacturer of fertilizers or stock feed is permitted to offer his goods for sale in this State, he is required to file in the office of the Commissioner of Agriculture a sworn statement as to the analyses of the different brands of goods he purposes tendering the consuming public. This oath of analysis is required under the rules of this Department to be filed during the month of January of each year. An oath filed at any time during the year protects the manufacturer only to the end of the year for which said oath was filed. Our law requires the manufacturer to assume the responsibility of having the inspection tax stamp, as is provided for by law, to be attached to each package of fertilizer or stock feed placed on the market in this State. In this connection I wish to emphasize the fact that the inspection tax stamp in no way indicates the approval of this Department as to the quality of the goods offered for sale. It only indicates that the manufacturer, importer or dealer has complied with the law in so far as it relates to the payment of the inspection tax. I have found some people who were under the impression that when the tax stamp bearing the Commissioner's name was found upon the guarantee tag, that this was evidence that the goods were all right, which of course is not true except as above explained. It is true, however, that where a manufacturer, importer or dealer would wilfully undertake to evade the tax and purposely omit to affix the tax stamp, the consumer would be justified in concluding that such a person would not hesitate to defraud him in the quality of his goods as readily as he would undertake to evade the law by defrauding the State of its legal and legitimate tax.

The State, through a system of inspection, takes samples of fertilizers and stock feed wherever found on the market. These are called official samples, being taken by officers of the State and analyzed by the State Chemist's Department. In this way the State obtains its information as to whether the manufacturer is coming up to the standard he guarantees.

In addition, under our system, any consumer of fertilizer or stock feed may take samples of the goods he purchases for his own use, under regulations prescribed by statute and rules of this Department, and send said samples to the Commissioner of Agriculture, who transmits the same to the Chemist's Department, where the analyses of the samples are made, the result returned to the Commissioner, who sends the analyses to the parties having sent in the samples. In this way the consumer is advised as to whether his goods come up to the guarantee furnished him upon purchasing. This is done free of cost to the consumer. By this system the responsibility is placed upon the consumer to protect himself from imposition. The State stands ready to co-operate with and assist all those who are disposed to assist themselves.

The State Chemist having discussed in his report the several phases of our fertilizer, stock feed, pure food and drug acts, which have heretofore been handled by the head of the Department, I deem it unnecessary to go into any lengthy detailed explanation or discussion of these subjects; the State Chemist's report being published as an appendix to this, the report of the Commissioner of Agriculture, to which reference is here made for more full and detailed explanations. Any one interested in this subject will find the report of the State Chemist very valuable.

I wish to express my appreciation of the many kindnesses shown the head of this Department by the State Chemist and his corps of efficient assistants. The State Chemist has been a valuable assistant in his efforts to relieve as far as possible the Commissioner from the details attending the enforcement, especially of the pure food and drug act, this law being more properly the work of the Chemist than of the Commissioner. With the many divisions calling for the time and thoughts of the Commissioner, it would be impossible to undertake the investigations and to properly reach intelligent conclusions and proper applications of the rulings and regulations of the United States Pure Food Department, which under our law, become the regulations of our State. This work being in direct line with the study and work of the Chemit's division, the State Chemist has been of much assistance in compiling data so that the concentrated facts only were necessary to be considered by the Commissioner.

I here submit in tabular form a statement showing the number of tons of fertilizers upon which the inspection tax stamp has been placed, together with the amount of revenue derived therefrom, and, in addition, a schedule of the manufacturers who have filed their oaths of analysis as required by law in order to do business in this State.

These tables cover a period represented by this report, to-wit: 1909 and 1910.

I here submit the report of Hon. J. Hampton Jones, the Inspector of Stock Feed and Fertilizers, and the report of Hon. A. P. Jordan, Inspector of Food and Drugs. I desire to state, in this connection, that I am under many obligations to these inspectors for the courteous and efficient manner in which they have carried out every request made by the head of the Department and I wish to commend them for the thoroughness with which they have performed the duties devolving upon them as inspectors.

They have both labored under the misfortune of insufficient funds for traveling expenses to enable them to give the service to the people of the State that they could and would have given had they not been limited by an insufficient appropriation to properly defray their traveling expenses. This, in my judgment, is false economy upon the part of the Legislature. The inspectors should be equipped with the means to be in the field of inspection during the entire year, with sufficient funds to be transferred from one part of the State to another upon any emergency arising calling for the presence of the inspector to personally investigate and go over conditions that arise from time to time in the different markets of the State.

Starke, Fla., Feb. 1, 1911.

Hon. B. E. McLin,
Commissioner of Agriculture,
Tallahassee, Fla.

Dear Sir:

Replying to your request for statement of mileage traveled by me during 1910, will state that I traveled by rail 12,000 miles, by water about 350 miles, and by private conveyance about 250 miles.

Also, I am glad to state that the consumers of feed stuffs are getting better educated as to the meaning of analysis tags on crushed and mixed feed stuffs. I have paid especial attention not only to distributing copies of the law but explaining the meaning of the analysis to the consumers as well. This has a tendency to force the jobbers to buy the very best feeds. Consequently, 90% of the ground feeds coming into our State during the last year have been high grade stock feed.

At the beginning of my work as State Inspector, I found some of the merchants not in sympathy with the law. They used as argument that it was just as reasonable to compel them to stamp corn meal as pure wheat middlings and wheat brand. After showing them, and explaining in some instances that wheat middlings have been found to contain 20% cob meal, and brand from 20% to 30% rice hulls, they saw the importance of the law. And I am now glad to say that the entire jobbing trade has realized the importance of this law as well as the consumers.

Yours very truly,
J. HAMPTON JONES,
Inspector.

Jan. 28, 1911.

Hon. B. E. McLin,
Commissioner of Agriculture,
Tallahassee, Fla.

Dear Sir:

Answering your request for information concerning the work done by me as Food and Drug Inspector during the years 1909 and 1910, I beg to report as follows:

During 1909 I traveled by rail, approximately, 10,600 miles, by water 1,050, and by private conveyance 20 miles. During 1910 I traveled by rail, approximately, 8,000 miles, by water 700 miles and by private conveyance 20 miles. In many instances I paid cash fares both by rail and by water, and not knowing the distance cannot give the exact, but only the approximate mileage.

My records show that, during those two years, I collected and forwarded to the State Chemist for examination and analysis 528 samples of food and drugs.

I gave especial attention to the wholesale centers of the State, but did not neglect the smaller cities and towns which it was practicable for me to visit. Amongst the wholesalers and retailers alike. I found general approval of the pure food law and a sincere intention to comply with its provisions. It may be said that practicably no wilful violations of the law have been committed. Of course many violations, mostly technical and of an unimportant character, have been found, but they were unintentional, and as soon as attention was called to them they were corrected.

One thing I would like to say is that a few of the grocery stores, both wholesale and retail, are kept in a very disorderly and dirty condition, with food stuffs exposed to dirt and flies, which does not speak well for the proprietors and indicates a condition for which some remedy should be found.

Very respectfully,
(Signed) A. P. JORDAN,
Food and Drug Inspector.

TABLE NO. 1—FERTILIZER.

Table showing the number of tons of commercial fertilizer, upon which the inspection tax of 25 cents per ton has been paid, and offered for sale in the State of Florida during the year 1909:

1909.

	Tons.	Dollars.	Stamps.
January	26,499.00	$ 6,624.75	311,840
February	26,359.32	6,589.83	298,336

	Tons.	Dollars.	Stamps.
March	13,925.00	3,481.25	153,100
April	3,885.00	971.25	54,600
May	8,905.00	2,226.25	117,700
June	6,795.00	1,698.75	90,600
July	2,440.00	610.00	34,500
August	2,740.00	685.00	38,800
September	7,930.00	1,982.50	105,500
October	12,025.00	3,006.25	143,800
November	10,203.00	2,550.75	139,060
December	17,763.44	4,440.86	234,239
Totals	139,469.76	$34,867.44	1,722,075

Table showing the number of tons of commercial fertilizer upon which the inspection tax of 25 cents per ton has been paid, and offered for sale in the State of Florida during the year 1910:

1910.

	Tons.	Dollars.	Stamps.
January	27,925.00	$ 6,981.25	318,000
February	39,517.00	9,879.25	443,570
March	17,705.52	4,426.38	198,440
April	2,456.80	614.20	33,186
May	6,524.00	1,631.00	86,454
June	6,644.00	1,661.00	81,920
July	5,315.00	1,328.75	80,450
August	1,926.00	481.50	22,810
September	7,420.00	1,855.00	92,000
October	7,850.00	1,962.50	100,700
November	12,804.00	3,201.00	157,940
December	22,445.00	5,611.25	288,750
Totals	158,532.32	$39,633.08	1,904,220

TABLE NO. 2—STOCK FEED.

Tables showing the number of tons of stock feed sold in the State, subject to the inspection tax, at the rate of 25 cents per ton, for the years 1909 and 1910:

The law governing stock feed (Chapter 5452 of the Laws of Florida) did not become operative till the last of August, 1905.

1909.

	Tons.	Dollars.	Stamps.
January	5,874.00	$ 1,468.50	123,765
February	3,555.92	888.98	71,118
March	8,015.00	2,003.75	160,300
April	5,944.80	1,486.20	118,896
May	9,382.00	2,345.50	180,969
June	7,383.52	1,845.88	143,558
July	5,173.04	1,293.26	101,960
August	3,196.20	799.05	62,424
September	4,266.52	1,066.63	85,330
October	7,374.32	1,843.58	145,980
November	6,333.56	1,583.39	123,671
December	5,851.24	1,462.81	117,025
Totals	72,350.12	$18,087.53	1,434,936

1910.

	Tons.	Dollars.	Stamps.
January	6,564.00	$ 1,641.00	131,280
February	5,656.52	1,414.13	113,030
March	6,187.00	1,546.75	119,500
April	4,319.00	1,079.75	86,600
May	7,117.64	1,779.41	138,505
June	6,839.60	1,709.90	130,040
July	5,167.20	1,291.80	103,344
August	5,848.76	1,462.19	115,475

	Tons.	Dollars.	Stamps.
September	4,130.00	1,032.50	81,100
October	8,255.00	2,063.75	161,243
November	7,930.12	1,982.53	157,745
December	7,227.52	1,806.88	140,050
Totals	75,242.36	$18,810.59	1,477,120

TABLE NO. 3—COTTONSEED MEAL.

Table showing the number of tons of cottonseed meal, upon which the inspection tax of 25 cents per ton has been paid, and offered for sale in the State of Florida during the year 1909:

1909.

	Tons.	Dollars.	Stamps.
January	2,370.00	$ 592.50	49,400
February	2,542.52	635.63	50,850
March	2,650.00	662.50	53,000
April	363.00	90.75	5,260
May	865.00	216.25	17,300
June	210.00	52.50	4,200
July	120.00	30.00	2,400
August	500.00	125.00	10,000
September	1,880.00	470.00	37,600
October	1,040.00	260.00	20,800
November	1,530.00	382.50	30,600
December	1,400.00	350.00	28,000
Totals	15,470.52	$ 3,867.63	309,410

Table showing the number of tons of cottonseed meal, upon which the inspection tax of 25 cents per ton has been paid, and offered for sale in the State of Florida during the year 1910:

1910.

	Tons.	Dollars.	Stamps.
January	1,490.00	$ 372.50	29,800
February	1,570.00	392.50	31,400
March	3,015.00	753.75	60,300
April	308.00	77.00	6,160
May	806.52	201.63	16,130
June	335.00	83.75	6,700
July	975.00	243.75	19,500
August	200.00	50.00	4,000
September	900.00	225.00	18,000
October	2,005.00	501.25	40,100
November	1,115.00	278.75	22,300
December	1,390.00	347.50	27,800
Totals	14,109.52	$ 3,527.38	282,190

The following is a list of the manufacturers of fertilizers that filed their oath of analysis with this Department to do business in Florida during the years 1909 and 1910:

Alabama Chemical Co., Montgomery, Ala.
Ashepoo Fertilizer Co., Charleston, S. C.
Armour Fertilizer Works, Jacksonville, Fla.
Alabama Cotton Oil Co., Montgomery, Ala.
American Agricultural Chem. Co., Jacksonville, Fla.
Americus Oil Company, Americus, Ga.
Bradley Fertilizer Co., Charleston, S. C.
Baugh & Sons Co., Baltimore, Md.
Bigbee Fertilizer Co., Pensacola, Fla.
Blackshear Mfg. Co., Blackshear, Ga.
Blanchard, Humber & Co., Columbus, Ga.
Birmingham Fertilizer Co., Birmingham, Ala.
W. C. Bradley Co., Columbus, Ga.
Buckeye Cotton Oil Co., Macon, Ga.

W. C. Brodes & Co., Columbus, Ga.
Barker Chemical Co., Savannah, Ga.
Black-Hewett & Co., Montgomery, Ala.
Bushnell Nurseries, Arcadia, Fla.
Coe-Mortimer Co., Charleston, S. C.
Cumberland Bone Phosphate Co., Charleston, S. C.
Cuthbert Oil Co., Cuthbert, Ga.
Coweta Fertilizer Co., Newnan, Ga.
A. D. Campbell, Chipley, Fla.
Conecuh Fertilizer Co., Evergreen, Ala.
Combahee Fertilizer Co., Charleston, S. C.
Central Oil & Fertilizer Co., Cordele, Ga.
Clay County Oil Mill & Fert. Co., Louisville, Ky.
W. H. Cudahy, Jacksonville, Fla.
Currie Fertilizer Co., Louisville, Ky.
Dothan Guano Co., Dothan, Ala.
Dainesville Cotton Oil & Fert. Co., Dainesville, Ga.
J. E. Dubuisson & Co., Pensacola, Fla.
Farmers Fertilizer Co., Montgomery, Ala.
Fort Gaines Fertilizer Co., Fort Gaines, Ga.
Florida Fertilizer Co., Gainesville, Fla.
Farmers Cotton Oil Co., Americus, Ga.
Florida Cotton Oil Co., Tallahassee, Fla.
Florida Cotton Oil Co., Jacksonville, Fla.
Farmers Oil & Mfg. Co., Camden, Ala.
Federan Chemical Co., Montgomery, Ala.
Farmers Oil & Fertilizer Co., Dawson, Ga.
Florida Mfg. Co., Madison, Fla.
Grasselli Chemical Co., Birmingham, Ala.
Georgia Chemical Works, Augusta, Ga.
The Goulding Fertilizer Co., Pensacola, Fla.
Georgia Fertilizer & Oil Co., Valdosta, Ga.
Gulfport Cotton Oil Co., Gulfport, Miss.
German Kali Works, Baltimore, Md.
The Gulf Fertilizer Co., Tampa, Fla.
Germefert Mfg. Co., Charleston, S. C.
Grovanna Fertilizer Co., Grovanna, Ga.

Headland Fertilizer Co., Dothan, Ala.
Hazelhurst Cotton Oil Co., Hazelhurst, Ga.
J. E. Hardee Co., Madison, Fla.
Frederick Heakes & Son, Mobile, Ala.
Independent Fertilizer Co., Jacksonville, Fla.
Jacksonville Fertilizer Co., Jacksonville, Fla.
Kraus, McFarland & Co., Quincy, Fla.
A. R. Logan Company, Atlanta, Ga.
Louisville Fertilizer Co., Louisville, Ky.
Laurens Cotton Oil Co., Dublin, Ga.
Lilly Oil Mill Co., Lilly, Ga.
Mutual Fertilizer Co., Savannah, Ga.
McCaw Manufacturing Co., Macon, Ga.
McRae Oil & Fertilizer Co, McRae, Ga.
Montezuma Mfg. Co., Montezuma, Ga.
Marks & Gayle, Montgomery, Ala.
E. R. Malone, Dothan, Ala.
Mapes F. & P. Guano Co., New York, N. Y.
Milledgeville Oil Mills, Milledgeville, Ga.
Macon County Oil Co., Tuskegee, Ala.
Nitrate Agencies Co., Savannah, Ga.
New Orleans Acid Fert. Co., New Orleans, La.
Ocala Fertilizer Co., Ocala, Fla.
G. Ober & Sons Co., Baltimore, Md.
Ocilla Oil & Fert. Co., Ocilla, Ga.
Pensacola Fertilizer Co., Pensacola, Fla.
Peruvian Guano Co., Charleston, S. C.
Planters Chemical & Oil Co., Talladega, Ala.
E. O. Painter Fertilizer Co., Jacksonville, Fla.
Peruvian Guano Corporation, Charleston, S. C.
Quitman Oil Co., Quitman, Ga.
F. S. Royster Guano Co., Macon, Ga.
Pearl Phosphate Co., Nashville, Tenn.
The Southern Cotton Oil Co., Savannah, Ga.
Standard Guano & Chemical Mfg. Co., New Orleans, La.
A. J. Strickland Mfg. Co., Valdosta, Ga.
Southern Cotton Oil Co., Atlanta, Ga.

Savannah Chemical Co., Savannah, Ga.
Savannah Guano Co., Savannah, Ga.
Standard Fertilizer Co., Gainesville, Fla.
Southern States Phos. & Fert. Co., Savannah, Ga.
Southern Fertilizer Co., Orlando, Fla.
Southern Cotton Oil Co., Montgomery, Ala
Samson Cotton Oil Co., Samson, Ala.
Southern States Phos. & Fert. Co., Augusta, Ga.
Sea Island Cotton Oil Co., Charleston, S. C.
Southern Cotton Oil Co., Charleston, S. C.
G. W. Sanders Fertilizer Co., Jacksonville, Fla.
South Atlantic Fertilizer Co., Valdosta, Ga.
Tuscarora Fertilizer Co., Jacksonville, Fla.
Thompson Oil Mill Co., Hawkinsville, Ga.
Taylor Brokerage Co., Atlanta, Ga.
J. R. Tysen, Jacksonville, Fla.
Taylor & Co., New York, N. Y.
Uniontown Cotton Oil Co., Uniontown, Ala.
T. W. Wood & Sons, Richmond, Va.
Virginia-Carolina Chemical Co., Atlanta, Ga.
Wilson & Toomer Fertilizer Co., Jacksonville, Fla.
Wiley Fertilizer Co., Troy, Ala.
Willmont Oil Mills, Pelzer, S. C.
J. Lindsay Wells Co., Memphis, Tenn.
Wilson Tobacco Co., Quincy, Fla.

The following is a list of the manufacturers who have filed their oath of analysis to sell stock feed in the State of Florida during the years 1909 and 1910:

American Milling Company, Chicago, Ill.
Armour Fertilizer Works, Jacksonville, Fla.
Albert Dickinson Co., Chicago, Ill.
Alabama Corn Mills Co., Mobile, Ala.
Atlanta Milling Co., Atlanta, Ga.
Akin-Erskine Milling Co., Evansville, Ind.

American Hominy Co., Indianapolis, Ind.
Aviston Milling Co., Aviston, Ill.
American Steam Feed Co., Nashville, Tenn.
Alfalfa Milling Co., Kansas City, Mo.
Atlis Alfalfa Milling Co., Atlis, Okla.
Alfalfa Feed Mills, Nashville, Tenn.
Acme Mill & Elevator Co., Hopkinsville, Ind.
American Alfalfa Fed Co., Wichata, Kansas.
Bainbridge Oil Co., Bainbridge, Ga.
The Blair Elevator Co., Atchison, Kansas.
Ballard & Ballard, Louisville, Ky.
The J. W. Biles Co., Cincinnati, Ohio.
Baker & Holmes Co., Jacksonville, Fla.
Bernet, Craft & Kauffman Milling Co., St. Louis, Mo.
C. B. Barnard, Tampa, Fla.
Duff Commission Co., Nashville, Tenn.
T. H. Burch & Co., Little Rock, Ark.
The Corno Mills Co., St. Louis, Mo.
Commonwealth Feed Mills Co., St. Louis, Mo.
City Mill & Grain Co., Columbia, Tenn.
Cover Supply Co., Baltimore, Md.
Cairo Milling Co., Cairo, Ill.
Corn Products Refining Co., New York, N. Y.
Capital Grain & Mill Co., Nashville, Tenn.
City Mill Co., Columbus, Ga.
Callahan & Sons, Louisville, Ky.
Chamberlain Feed Co., St. Louis, Mo.
Dahnke-Walker Milling Co., Union City, Tenn.
Donelsonville, Oil Mill, Donelsonville, Ga.
The Dunlop Mills Co., Richmond, Va.
L. E. Durham & Co., Pensacola, Fla.
Domestic Flour Milling Co., Kansas City, Mo.
Geo. Dumas Co., Mobile, Ala.
Edgar Morgan Co., Memphis, Tenn.
J. B. Edgar Grain Co., Memphis, Tenn.
J. & S. Emison Co., Vincennes, Ind.
El Reno Alfalfa Milling Co., El Reno, Okla.

Farmers Cotton Oil Co., Uniontown, Ala.
The M. F. Gonzales Co., Pensacola, Fla.
C. A. Gambrill Mfg. Co., Baltimore, Md.
Great Western Feed Co., St. Louis, Mo.
Great Western Cereal Co., Chicago, Ill.
The J. E. Hardee Co., Madison, Fla.
Home Mill & Grain Co., Mt. Vernon, Ind.
R. F. Howard, Tallahassee, Fla.
Hopkinsville Milling Co., Hopkinsville, Ky.
The Hudnut Company, Terre Haute, Ind.
H. L. Holliday & Co., Cairo, Ill.
Hunter-Robinson-Wentz Milling Co., St. Louis, Mo.
Illinois Feed Mills, St. Louis, Mo.
Iowa Grain Company, Nashville, Tenn.
Just Milling & Feed Co., Nashville, Tenn.
Kemper Mill & Elevator Co., Kansas City, Mo.
Kohler Flour Mills, St. Louis, Mo.
Keeton-Krueger Co., Atlanta, Ga.
Chas. A. Krauss Milling Co., Milwaukee, Wis.
Kornfalfa Feed Milling Co., Kansas City, Mo.
Kendrix Roan Grain Co., Nashville, Tenn.
Louisiana Feed Products Co., Baton Rouge, La.
Lawrenceburg Roller Mills Co., Lawrenceburg, Ind.
Lawrence & Hamilton Feed Co., New Orleans, La.
The Larrowe Milling Co., Detroit, Mich.
Lexington Flour Mills Co., Lexington, Ky.
Louisville Cereal Co., Louisville, Ky.
A. R. Logan Co., Atlanta, Ga.
Jno. F. Myer & Sons Milling Co., St. Louis, Mo.
Mountain City Mill Co., Chattanooga, Tenn.
Millbourn Mills, Philadelphia, Pa.
Miller-Jackson Grain Co., Tampa, Fla.
Miller & Co., Nashville, Tenn.
Marcus Bernheimer Flour Mills, St. Louis, Mo.
E. P. Muller, Norfolk, Va.
Wm. H. Moody, Memphis, Tenn.
Nutriline Milling Co., Crowley, La.

Northe-West Mills Co., Winona, Minn.
Nelson Grain Co., Kansas City, Mo.
Nashville Roller Mills Co., Nashville, Tenn.
National Feed Co., St. Louis, Mo.
National Feed Mfg. Co., Macon, Ga.
Newport Mill Co., Loudon, Tenn.
National Warehouse & Storage Co., St. Louis, Mo.
M. C. Peters Mill Co., Omaha, Neb.
Planters' Oil Co., Albany, Ga.
G. E. Patterson & Co., Memphis, Tenn.
Pillsbury Flour Mills Co., Minneapolis, Minn.
Peninsular Naval Stores Co., Tampa, Fla.
H. Da Ponta & Co., New Orleans, La.
Peacock Cotton Seed Meal Co., Memphis, Tenn.
The Quaker Oats Company, Chicago, Ill.
Ralston Purina Co., St. Louis; Mo.
Rayne Rice Milling Co., Rayne, La.
The C. W. Robinson Co., Houston, Tex.
W. J. Roe & Co., St. Louis, Mo.
J. Allen Smith & Co., Knoxville, Tenn.
Star & Crescent Milling Co., Chicago, Ill.
E. L. Shutes & Co., Philadelphia, Pa.
Southwestern Milling Co., Kansas City, Mo.
Southern Indiana Milling Co., Jeffersonville, Ind.
Steinmesch Feed Supply Co., St. Louis, Mo.
Stegall Grain Milling Co., Montgomery, Ala.
Standard-Tilton Milling Co., Alton, Ill.
Tennessee Fibre Co., Memphis, Tenn.
Texas Star Flour Mills, Galveston, Tex.
Taylor-Green Grain Co., Memphis, Tenn.
H. C. Thompson, Wichita, Kans.
Union City Grain & Feed Co., Union City, Tenn.
Universal Stock Feed Co., Lebanon, Tennn.
United Grocery Co., Jacksonville, Fla.
The Van Iderstine Co., Long Island City, N. Y.
The Valley Milling Co., St. Louis, Mo.
Valdosta Oil Co., Valdosta, Ga.

Washburn-Crosby Milling Co., Louisville, Ky.
Waterloo Milling Co., Waterloo, Ill.
J. Lindsay Wells Co., Memphis, Tenn.
J. H. Wilkes & Co., Nashville, Tenn.
Frank J. Webb, Baton Rouge, La.
Wash Co-Alfalfa Mill Feed Milling Co., Calhoun, Neb.
Western Grain Products Co., Hamond, Ind.
Yates & Donelson Co., Memphis, Tenn.
J. Zimmern's Co., Mobile, Ala.

State Prison Division.

STATE PRISON DIVISION.

The Constitution, as well as statutory provisions in this State, places the State prisoners and prisons under the immediate supervision and control of the Commissioner of Agriculture.

The Board of Commissioners of State Institutions of Florida has general supervision of all State institutions, and in this way has supervision, through the Commissioner of Agriculture, of matters pertaining to convicts and prisons.

With the several divisions under the direction of the Commissioner of Agriculture, there is not one which demands more of the earnest thought and careful consideration of the Commissioner of Agriculture than the responsibilities resting upon him as head of the prison system. Any one with sufficient intelligence to appreciate responsibilities can readily understand why this should be, when it is remembered that the subjects to be considered are human beings, although it be true that they rest under a sentence of the laws of our country as having been violators of the rules governing society.

In former reports I have discussed in such full detail the various conditions surrounding our prison system that I hardly deem it necessary to cover this ground so fully in this, my present report.

Under the laws of this State now in force the Board of Commissioners of State Institutions, through the Commissioner of Agriculture, handles our State prisoners under what is termed a lease system.

On the 5th of March, 1909, the said Board, by resolution, authorized the Commissioner of Agriculture to enter into a contract for the lease of all of the State's prisoners for a period of four years, beginning January 1, 1910, and terminating December 31, 1913.

To give a clear outline of the conditions embodied in said contract, I cannot do better than to herewith set out in full a copy of said contract, entered into by the Commissioner of Agriculture and the Florida Pine Company, a corporation organized under the laws of Delaware, doing business in the State of Florida, with headquarters in Jacksonville, Florida.

It is proper to state in this connection, that the parties representing the said incorporated company are practically the same individuals who leased the State prisoners for a period of four years, beginning January 1, 1902, having been of well known character and bona fide citizens of the State of Florida.

For carrying out the provisions of this contract, said company entered into a bond made payable to the Governor of the State of Florida and his successor in office, in the sum of $100,000.00, with good and sufficient sureties, which was approved by the Board of Commissioners of State Institutions.

It may be remembered that prior to 1903 our statutes limited the bond that could be required of lessees of State prisoners to the minimum sum of $20,000. Believing that this was not such a requirement in the way of a bond as should be exacted from persons leasing State prisoners, I prepared a bill and presented same, through a member of the Legislature, amending said statute so that the Board could in future require a bond in keeping with the responsibilities and revenues to be protected by said Board. Hence, it is now possible for the Board to require a bond such as I have above referred to.

COPY OF THE CONTRACT NOW IN OPERATION.

Contract.

This Agreement made and entered into this FIFTH day of March, A. D 1909, by and between B. E. McLin, Commissioner of Agriculture of the State of Florida, for and on behalf of said State, under the provisions of law hereinafter stated, of the one part, and the Florida Pine Company, a Corporation organized under the laws of Delaware, doing business in the State of Florida, with its headquarters in Jacksonville, Florida.

WHEREAS, the said B. E. McLin, Commissioner of Agriculture of the State of Florida, as aforesaid, under the authority of and pursuant to the provisions of sections numbered from 4146 to 4159, inclusive, of the General Statutes of the State of Florida, the same being Article 7 of Chapter 2 of Title 4 of the Fifth Division of the General Statutes of Florida, and entitled "Contracts for Labor of State Prisoners," and by and with the approval of the Board of Commissioners of State Institutions, has decided to enter into a contract with the said The Florida Pine Company, a corporation organized under the laws of Delaware, doing business in the State of Florida, with its headquarters in Jacksonville, Florida, for the labor, maintenance and custody of all the State prisoners, male and female, sentenced to or confined within the State prison on the 1st day of January, A. D. 1910, and who may be, during the period of four years from the 1st day of January, A. D. 1910, sentenced by any court of the State of Florida of competent jurisdiction to imprisonment in said prison; and,

WHEREAS, the said The Florida Pine Company have expressed their desire and willingness to enter into such contract; therefore this agreement,

WITNESSETH, That the said The Florida Pine Company, a corporation organized under the laws of Delaware, doing business in the State of Florida, with its headquarters in Jacksonville, Florida, for and during the period of four years, commencing the 1st day of January, A. D. 1910 (nineteen hundred and ten), and ending December 31st, A. D. 1913 (nineteen hundred and thirteen), shall have the use of, enjoy and control the labor, services, use and custody of the whole number of persons, whether male or female, who may on the first day of January, A. D. 1910, be under sentence of imprisonment in the State prison of the said State, and who may during said period of four years be sentenced, by any court of the State of Florida of competent jurisdiction, to imprisonment in said prison. Provided, however, that the said The Florida Pine Company shall not have, use, enjoy or control the labor, services, use or custody of any such prisoners longer than she or he shall be legally liable to imprisonment, under his or her sentence, and the Constitution and Laws of the State of Florida, and the regulations as to an allowance of credits and deductions of time for terms of sentence for, or on account of good conduct. And, provided further, that the rights and powers of the said The Florida Pine Company to the custody, services, use and labor of any of such prisoners hereunder, shall in all things be subject to exercise of the power to pardon offenses and commute punishments and to grant reprieves under the Constitution and laws of the State.

And, provided further, that all rights and powers of the said The Florida Pine Company under the provisions of this instrument and said statutes, shall be in all things subject to the supervision of the Commissioner of Agriculture of the State of Florida, and his successors in office, as provided herein, and by the terms of said statutes; and provided, further, that such prisoners or convicts are to be kept, used and employed at some point or points within the said State of Florida, and are under no circumstances or conditions to be taken, removed, or to be permitted to go beyond the limits of said State.

And that the said The Florida Pine Company will receive at any place in the State named by the Commissioner of Agriculture, on the first day of January, A. D. 1910, subject to all the provisions of this contract, the whole number of prisoners, who were on that day under sentence of imprisonment in the State prison of said State and then present in the said prison, and the said The Florida Pine

Company does hereby agree and bind themselves to take and receive promptly any and all convicts assigned to them at any place approved by the Commissioner of Agriculture.

The said The Florida Pine Company will receive all persons who may be sentenced to imprisonment in the State prison of said State of Florida, by any court of competent jurisdiction in said State, after the first day of January, A. D. 1910 (nineteen hundred and ten), and during the period of four years ending December 31st, 1913.

That the said The Florida Pine Company will receive said persons so sentenced, at county site of the county wherein they or any of them were sentenced, or are held in confinement, immediately upon notice from the Commissioner of Agriculture, or the sheriff of the county. And the said The Florida Pine Company agrees that they will not permit or cause, or suffer any of the prisoners to be received under the provisions of this instrument, to be worked or made to labor before sunrise or after sunset, nor more than ten hours on any one day, or to be made to work on the Sabbath day, or to be removed or worked or employed, or taken, or go beyond the limits of said State. Provided, however, that the lessee may, if agreeable with the prisoner, make arrangements for doing of extra work by any of such prisoners at a reasonable compensation, which compensation shall be paid to the prisoner performing such extra work, said terms to be subject to the approval of the Commissioner of Agriculture, and that they, the said The Florida Pine Company, shall at all times during said period of four years without expense or cost or liability upon the part of the said State, or of any officer, or of any county or officer thereof, maintain all such persons received and kept by them sentenced as aforesaid, or that may be sentenced as aforesaid, and provide custody, maintenance and support for them and each of them, and provide and furnish all and every such persons comfortable quarters and lodging, good and comfortable clothing, including bedding and blankets, wholesome food, and when any of them shall be sick or disable, necessary medicine and medical attendance, and proper personal care. Their allowance of food and clothing, including bedding and blankets, to be prescribed by the Board of Commissioners of State Institutions of said State, from time to time.

Each prisoner shall be furnished with a separate iron cot bedstead not less than three and one half feet in width and not less than six and one-half fet in length, and placed in the sleeping sell with not less than two feet of space between each bed, and where two rows of beds are in one hall, there must not be less than four feet of hallway between each row of beds. Each bed shall have a good, clean mattress and pillow, also three pillow cases, four sheets and two pairs of blankets. There shall be kept in stock at each prison camp, at all times, for the use of the prisoners, not less than three suis of stripes, three suits of underclothing, including socks, two pairs of shoes, one hat, two night shirts for each and every prisoner located at any prison or camp. All buildings to be used in connection with housing said prisoners shall be subject to the approval of the Commisioner of Agriculture.

The white and colored prisoners shall be segregated, that is to say, no white prisoner shall be allowed to be housed in the same building, maintained or placed at work where they will in any way come in personal contact with colored prisoners, and vice versa, except at the central prison hospital or hospitals, and the headquarters camp, where the prisoners are collected from different jails to be distributed to different camps or prisons for labor, and at said hospitals and headquarters camp there shall be such separation of the two races and sexes as will be approved by the Commissioner of Agriculture. However, upon application for certain specific duties, the Commissioner of Agriculture, with the approval of the Board of

Commissioners of State Institutions, may be authorized to assign persons of the opposite color for said specific duties.

That all convicts shall at all times be required to wear the prescribed convict stripes.

The said The Florida Pine Company will employ for each prison or camp and keep employed a physician or doctor of medicine of skill and experience during said period of four years to visit and attend on, examine, treat and care for, and watch over all and each of such prisoners received and kept by them, and will secure his regular attention to examination, treatment and care of them in such manner and such frequency and fidelity as may be satisfactory to, or, prescribed by the Board of Commissioners.

And they The Florida Pine Company will provide a capable warden or captain of guards and a yard man for each prison or camp, who shall be subject to approval and removal by the Commissioner of Agriculture. A good and effective and sufficient guard of police for the custody of such prisoners, and for securing them and preventing their escape, such guards to be subject to approval by the Commissioner of Agriculture of said State, and that the said The Florida Pine Company will keep such persons in safe custody and under good discipline, and will use prompt diligence and will make proper efforts to arrest all such prisoners received, taken and kept by them, who may escape and pay all expenses of such efforts and arrest, and will in all things comply with the requirements of the Commissioner of Agriculture of said State, from time to time, and that the said The Florida Pine Company will fully and promptly perform and exercise all such duties, acts, powers and things whatsoever required or contemplated, or implied by or in the provisions of said statutes to be done, or performed by contractors thereunder, the same as if specially set out in this contract, and afford all proper facility and aid to the performance of any duty imposed by said statutes, or of any officer or officers of said State or of any county.

And that the said The Florida Pine Company does hereby agree and bind themselves to receive all convicts as aforesaid, furnish all guards, all food, clothing, medicine, medical attention and whatsoever also may be necessary for all and every one of said prisoners received and kept by them, which may be prescribed by said Board of Commissioners of State Institutions, free of all costs of any kind to the State of Florida or any of its officers.

And the said The Florida Pine Company further agree and bind themselves, that if they shall fail to do and perform any duty, act or thing, which according to the spirit and intent of this agreement, and said statutes, they should do and perform, or should in any manner violate the true meaning and intent of this instrument, or of any of said statutes, that the State of Florida, acting through its Governor, Commissioner of Agriculture, or Board of Commissioners of State Institutions, or any or all of them, shall have the right to do or cause or procure to be done, the duty, act or thing omitted to be done and to correct, repair, restore and amend any damages resulting from any such violations, and that The Florida Pine Company in such event, will pay to the State of Florida the full amount, principal and interest, of expense incurred by said State, or of any officer thereof, in doing or causing or procuring to be done, the duty, act, or thing omitted, or in correcting, repairing, restoring and amending any damage resulting from any such violation.

It is mutually agreed and understood by the parties to these presents that the said State prison or prisons, shall be at such places within the State of Florida, and for such period of time, as the Commisisoner of Agriculture and the Board of Commissioners of State Institutions may from time to time designate. The said Commissioner of Agriculture, party of the first part, reserving the right at all times and without notice, to change the location of said State prison or prisons, with the approval of the Board of Commissioners of State Institutions, at any time it may be deemed best for the interest of the prisoners and the State of Florida, without any recourse whatever by the contractor, and to exercise full controll thereof at any and all times during said contract.

It is covenanted and agreed by the said The Florida Pine Company that they shall and will take charge of, care for and controll said State prisons at their own proper cost and expense, at any time, and for any period that may be designated by the said Commissioner of Agriculture, with the approval of the Board of Commissioners of State Institutions during and under the term of this contract.

It is further covenanted and agreed, that upon the failure to comply with terms hereof, by or on the part of the said The Florida Pine Company, then this contract shall become forfeited and of no effect, and the sum or sums paid for the labor and hire of said convicts become forfeited to the State of Florida.

The remainder of balance due the State under said contract shall in that event become due and payable, and the covenants of the bond given to secure faithful performance of this contract and payment of the sums contracted hereunder, shall become forfeited, due and payable.

The said The Florida Pine Company covenant and agree that a central hospital or hospitals shall be established and maintained by them immediately upon receiving the said prisoners on the 1st day of January, A. D., 1910. That said hospital or hospitals shall be located at such place or places as may be designated by the Commissioner of Agriculture. Said hospitals shall be established and maintained at the expense and cost of the said The Florida Pine Company, and shall have capacity for comfortably housing not less than one hundred prisoners, and shall be fully equipped as indicated above for other prisoners, except that the beds are to be furnished good, comfortable springs; also to be thoroughly equipped with a dispensary, operating room and all the necessary drugs, surgical implements and other equipments and supplies incident to a modern first class hospital. That the said The Florida Pine Company, shall establish such rules and regulations for the management and conduct of said hospitals as may be prescribed by the Board of Commissioners of State Institutions.

It being mutually understood and agreed that in the quarterly settlement between the said The Florida Pine Company and the said Commissioner of Agriculture, there shall be deducted from the amount due by the said The Florida Pine Company upon this contract, the time lost by each inmate of said hospital, the time to be computed from the date the prisoner is sent from the camp to the hospital, to the day the physician directs him or her returned, or put to work as a labor earning prisoner. That the said The Florida Pine Company shall pay all expenses of conducting and maintaining said hospital.

The State Prison Physician shall determine when any prisoner should go to, or remain in the central hospital, with the approval of the Commissioner of Agriculture. That the physician at the central hospital or hospitals shall be chosen and selected by the Commissioner of Agriculture, and his salary to be paid by the said The Florida Pine Company.

That no prisoner shall be permitted to leave the stockade before sunrise and must be returned by sundown; provided, that a prisoner, if he so desires, may make satisfactory terms between himself and the lessee, and work overtime, the prisoner to receive compensation therefor, and the condition to be approved by the Commissioner of Agriculture. That the said The Florida Pine Company shall establish in each stockade, when practicable, water works and sewerage system for sanitary purposes, at their own expense, the Commissioner of Agriculture to decide the question of practicability. That at each camp a vegetable garden shall be maintained for furnishing sufficient vegetables for the prisoners.

That the said The Florida Pine Company shall provide a guard corps of not less than one guard for every five prisoners, when they are being worked in the woods, and a mounted guard to every twenty-five prisoners worked in the woods, this to include night guard and yardman. That they shall provide two well trained bloodhounds for every camp and for every twenty-five prisoners worked in the woods, or in this proportion, so that there shall be two such bloodhounds in each camp of twenty-five prisoners or less; said bloodhounds shall be kept in good training. That the said The Florida Pine Company shall establish and maintain a central headquarters camp, where prisoners shall be first taken from the counties for distribution among the camps, which said central headquarters camp, and all other camps, shall be built and maintained upon plans and specifications approved by the Commissioner of Agriculture and the Board of Commissioners of State Institutions.

That full description, including marks, measurements, weight and peculiarities shall be taken of each prisoner, and double photos, one of front and one of side view, shall be taken; said photos and description shall be numbered with the number of the prisoner. That the said The Florida Pine Company shall maintain a central or business office, in which shall be kept all data concerning the prisoners, including photos, descriptions, records and memoranda of each prisoner; there shall be connected therewith a photograph developing department. Copies of all such descriptions, measurements, etc., shall be furnished the Commissioner of Agriculture.

That the said The Florida Pine Company shall, immediately upon the escape of any prisoner, forward from said office to the Commissioner of Agriculture, and to all chiefs of police and sheriffs in this State, and to the police officer and sheriff of such other places out of the State to which the prisoner is likely to go, a double photograph, showing front and profile of the prisoner, full description, and a guaranteed reward of one hundred dollars to any one who will recapture and return said escaped prisoner. The reward shall be paid by the said The Florida Pine Company, and the notice thereof shall be signed by them. Not less than three hundred photographs, descriptions and notices of reward shall be forwarded (for each escaped prisoner).

The said The Florida Pine Company shall keep on file in their said business or central office, a list of names and addresses to which such notices, photographs and descriptions shall be sent, a copy of said list shall be furnished to the Commissioner of Agriculture, not later than the 15th day of January, A. D. 1910. That the said The Florida Pine Company shall keep at least one man employed in said office constantly, so that the Commissioner of Agriculture may communicate therewith any day in the year. All prisons and hospitals must be connected by telephone or telegraph, or both, with the regular telegraph lines of the State, so that they will be in connection with the Commissioner of Agriculture at Tallahassee, Fla. At each camp some one shall be designated, whose duty it shall be to communicate with the central or business office by telegraph or telephone, giving such office prompt notice by that means of every escape.

The said The Florida Pine Company shall at all times enforce in the camps and upon the work, such regulations as may be prescribed by the Board of Commissioners of State Institutions from time to time, for the health, humane treatment and safe custody of the prisoners. Allowances for escapes shall be made within the discretion of the Board of Commissioners of State Institutions. The said The Florida Pine Company agrees to bear all expenses incident to handling the prisoners from the date sentenced by the court in which they are tried begins to run (covering the cost of confinement in the county jail until removed by the contractor).

That the personnel of the warden, or captain and guards shall always be subject to approval of the Commissioner of Agriculture, under such rules and regulations as he may prescribe. Any guard shall be removed upon request by the Commissioner of Agriculture.

It is further covenanted and agreed that the said The Florida Pine Company shall and will execute a good and sufficient guarantee or other bond, payable to the Governor of the State of Florida, and his successors in office, in the penal sum of $100,000.00 (One Hundred Thousand Dollars), conditioned to secure the faithful performance of this contract as may be required by the party of the first part, with good and sufficient sureties to be approved by the Board of Commissioners of State Institutions.

All payments made under this contract shall be made by the said The Florida Pine Company quarterly, in advance, except for the first quarter of the year A. D. 1910, which shall be paid one-half on the first day of July, A. D. 1909, and the other half on the first day of October, 1909.

It is further covenanted and agreed that the number on hand on date of advanced payments shall be the basis of all advanced payments hereunder, that said advanced payments shall be made in advance each quarter of each year during said contract for the hire, or contract for labor of State prisoners as aforesaid, on such basis named herein, and that the final settlements and accounts for deduction for time that the number falls below said basis for excess of number of said basis, shall be made and had by the parties hereto on the first Monday of July and January during this contract.

It is covenanted and agreed by the parties hereto, that the said The Florida Pine Company are to pay for the hire of said State prisoners at the rate of $281.60 (two hundred eighty-one and 60/100 dollars) per annum per capita for all convicts or State prisoners assigned, dating from the date of arrival at the State prison. No deduction or allowance of said sum to be allowed on account of sickness, accidents, escapes, or other causes, except deaths, pardon, or release from prison by order of court of competent jurisdiction, except as herein and heretofore provided otherwise.

It is further covenanted and agreed that the State may at any time during the life of this contract, or prior to the time and actual performance of the same is entered upon on January the 1st, 1910, withdraw from said contract all female prisoners, invalid male prisoners, and such prisoners whom from any cause may be deemed unable to perform reasonable manual labor, and from the time of the withdrawal of said women and male prisoners, the said The Florida Pine Company agrees and bind themselves to pay fifteen (15%) per cent additional on the said $281.60 per capita, for the prisoners remaining in their custody under this contract. Said additional fifteen per cent to be paid from the date of the withdrawal of the said female prisoners above described.

It is distinctly agreed and covenanted that the said The Florida Pine Company shall promptly take and receive into their custody any and all convicts assigned to them at the place designated by the Commissioner of Agriculture, and convey them therefrom to the State prison, or to such other place as they may be held under the authority of the Commissioner of Agriculture, at the cost, risk and expense of the said The Florida Pine Company, and without any cost whatsoever to the State, county, or officers of either, for their transportation, care, maintenance and safe keeping.

It is further covenanted and agreed that the said The Florida Pine Company shall have the State prison managed and controlled by a suitable and competent man, to be acceptable to, and his selection, designation, management and control of said State prison shall be subject to the approval of the Commissioner of Agriculture and the Board of Commissioners of State Institutions, at any and all times, while said State prison is in the charge, custody and control of the said The Florida Pine Company hereunder, and said keeper of said State prison shall make such report of number of prisoners, distributions, descriptions, to whom and when received and delivered, and such other information as shall from time to time be required, and on such forms as may be prescribed by said party of the first part, with the approval of the Board of Commissioners of State Institutions.

And that they, the said The Florida Pine Company to bind themselves and agree that they will pay to the Treasurer of the State of Florida, the sum of $281,60 (two hundred, eighty-one and 60/100 dollars) per annum per capita for all convicts received and kept by them, as such contractors during the years A. D. nineteen hundred and ten (1910), nineteen hundred and eleven (1911), nineteen hundred and twelve (1912), and nineteen hundred and thirteen (1913.)

It is further covenanted and agreed that the State may at any time during the life of this contract or prior to the time and actual performance of the same is entered upon on January 1st, 1910, withdraw from said contract all female prisoners, invalid male prisoners and such prisoners who from any cause may be deemed unable to perform reasonable manual labor, and from the time of the withdrawal of said female and male prisoners, the said The Florida Pine Company agree and bind themselves to pay fifteen (15%) per cent additional on the said $281.60 per capita, for the prisoners remaining in their custody under this contract. Said additional fifteen per cent to be paid from the date of withdrawal of said female and male prisoners as above described, payment for the labor of said convicts to be made to the State Treasurer by the said The Florida Pine Company as follows: In quarterly payments each year in advance during said term of four years, except as hereinbefore prescribed.

And that they the said The Florida Pine Company do hereby bind themselves and agree that they will deliver to the Commissioner of Agriculture of the State of Florida, or to any one that the Governor of the said State may name on the first day of January, nineteen hundred and fourteen (1914), or at any time the said contract becomes due or forfeited, all convicts in their hands by virtue of this contract, the same to be delivered at such time and place as such Commissioner or Governor shall designate, free of all costs, expense or charge to said State of Florida, or any county or any officer thereof, and that neither the said State of Florida, nor any county nor any officer of either, shall be at any expense, for or on account of any person receivable by the said The Florida Pine Company, by virtue of these presents in any respect whatsoever from the time they or any of them are receivable, or shall be taken by the said The Florida Pine Company, according to the terms of this instrument, up to the surrender and delivery of such prisoners, at the expiration of this contract, on the first day of January, A. D., nineteen hundred and fourteen (1914).

And the said The Florida Pine Company do hereby further bind themselves and agree that they will deliver and turn over to the Commissioner of Agriculture of the State of Florida, or to any one that the Governor of said State may name, on the first day of January, A. D., nineteen hundred and fourteen (1914), or at any time that the said contract become due or forfeited, all data concerning the prisoners, including photos, negatives, descriptions, records and memoranda of and concerning each prisoner, that may be in the possession and keeping of the said The Florida Pine Company.

And it is further specifically agreed and understood that this contract shall not be transferred or assigned by the said The Florida Pine Company. Nor shall the entire number of prisoners leased hereunder be sub-let to any one person, firm or corporation. The said The Florida Pine Company shall, however, have the privilege of subletting said prisoners to such persons, firms, or corporations as may be approved by the Commissioner of Agriculture and the Board of Commissioners of State Institutions, but in no case shall the parties leasing prisoners from the said The Florida Pine Company, be allowed to sub-lease said prisoners which they hold under the lease from the said The Florida Pine Company. All parties to whom prisoners are sub-leased by the said The Florida Pine Company shall hold said prisoners subject always to the terms and conditions of this contract.

And the said contractor, The Florida Pine Company, in consideration of the premises, and as a part of this contract and the conditions upon which this contract is awarded to it, does on its part, hereby stipulate, covenant and agree to and with the said Commissioner of Agriculture and the said Board of State Institutions, that, in case any litigation of any character should arise between the parties hereto, growing out of this contract, or matters incidental thereto, the said contractor, The Florida Pine Company, shall not and will not institute the same in, nor remove or attempt to remove the same to the United States Courts, nor in any way evade or attempt to evade or avoid the jurisdiction of the State courts, with reference to such matters.

IN TESTIMONY WHEREOF, the said The Florida Pine Company and the said B. E. McLin, Commissioner of Agriculture, as aforesaid, have hereunto set their hands and affixed their seals to this and to another instrument of like tenor and date, this the day and year first above written.

B. E. McLIN, (Seal.)
Commissioner of Agriculture.
FLORIDA PINE COMPANY,
By D. R. McNEIL, President. (Seal.)
Attest: T. B. WILSON, Secretary.

Signed, sealed and delivered
in the presence of:
C. B. GWYNN,
O. M. JACOBIE,
J. STUART LEWIS,
JOHN T. COSTA.

Approved by the Board of Commissioners of State Institutions by resolution adopted this 8th day of March, 1909.

ALBERT W. GILCHRIST, Governor,
Chairman Board of Commissioners of State Institutions.
G. T. WHITFIELD,
Secretary Board of Commissioners of State Institutions.

ADDITIONAL REQUIREMENTS EMBODIED IN THE PRESENT CONTRACT.

I am glad to note that we have embodied in the contract now in operation a number of provisions that are decided improvements and show a marked advancement in the matter of properly maintaining our prison system as compared with former contracts. In my last biennial report I discussed a number of matters and expressed the hope that we would be able to have some of these incorporated in our next lease contract, realizing as I did and as all persons interested in prison matters do, that advancement or improvement in connection with prison systems requires time and patience with continual effort upon the part of those who by their close contact with prison work more readily recognize the importance of changes necessary to be made. The public must first be educated that it may recognize the importance of such changes, when a sentiment develops supporting advanced policies which are followed by legislative enactments in pursuance of educated public sentiment being crystalized on these subjects.

It will be noticed in the present contract we have a complete segregation of the races. The white and colored races are no longer worked even at the same camp nor lodged in the same barracks, except at our headquarters or concentration camp, where prisoners are placed when first brought from the jails of the various counties of the

State for distribution to their permanent prison work. Also at the central prison hospital for both races are, from necessity, placed at the same stockade and on the same farm, but are separated in their sleeping and dining quarters.

It is a source of gratification to me and it must be to the people of our State to know that we now have a complete segregation of the sexes. The women are now located in a building entirely separate and apart from the male population, and their work is in no way connected with the work of the males. The stockade for the females is located for the present on the farm owned and controlled by the lessee company, where the lessee company has constructed comfortable and sanitary quarters, well equipped and used for this class of prisoners. In fact these quarters would do credit to some of our private or public hospitals.

The requirements as set out in the contract relative to plenty of space for comfort, and separate bedsteads properly equipped, etc., are fully carried out at every state camp in operation. Wherever conditions justify, we have a flushed sewerage system in operation at each camp.

In my last report I discussed at some length the importance of prohibiting lessee companies from selling their contracts to other companies, they, the original lessee company, relinquishing for a monied consideration all right, title or interest in their original contract. This provision is embodied in our present contract and is being rigidly carried out. This was to prevent a combination of individuals who would have no purpose or interest in utilizing this factor of labor in our State from leasing the prisoners with a view of direct speculation upon such labor. It was my judgment then, as it is today, that this was best for the prisoners and the system.

PROGRESS MADE IN THE CONDITIONS SURROUNDING OUR PRISONERS.

Recognizing the fact that no reform movement can be accomplished or any radical change or inroad made upon settled customs, except by continual appeal to the better judgment of the people and, through this channel, awaken the conscience to a recognition of the importance of needed change, I have for the last six or eight years been persistently hammering upon the importance of our sovereign State purchasing land for the purpose of properly caring for its State prisoners. Knowing that it was impracticable to undertake to throw a bridge across a channel with one span, we commenced the work of eliminating the diseased and crippled prisoners from the various labor camps in the State by having the Board of Commissioners of State Institutions approve the policy of a central hospital being maintained for this class of our prisoners at the expense of the lessee company. This being accomplished, my next purpose was to have the female population eliminated from the various camps of the State and, eventually, both of these classes of prisoners eliminated from our lease system, believing, as I do that it is at least bad morals for a State to pass to a lessee company the responsibility resting upon a sovereign State, to care for, supervise, protect and maintain these classes of her prison population.

The Board of Commissioners of State Institutions were the first to recognize my position as correct and to lend their co-operation and assistance in bringing about these much desired results. Through the kindness of the press of the State, these matters were brought conspicuously before the reading public by numerous and lengthy extract from the Commissioners' report from time to time, until the Legislature of 1909 took an important step towards the desired end when said Legislature passed Chapter 5941, Laws of Florida, Acts of 1909, with the following title:

"An Act Authorizing the Board of Commissioners of State Institutions to purchase land for a prison farm, to erect buildings and equip said farm, and directing that certain prisoners be not leased for pay, and providing the means to defray the expense necessary to carry out the provisions of this Act."

This act makes an appropriation of only $50,000 from the fund arising from the hire of State prisoners, in quarterly payments of $10,0000 per quarter until the total sum of $50,000 has been realized.

From my knowledge of what was being done in other southern states, to say nothing of the eastern and western states, I was well aware of the fact that this appropriation was inadequate to approach the necessities for carrying out the policy as had been advocated, but was gratified and felt content to know that the policy or idea had taken root and by this act was recognized by the Legislature as a proper course to be pursued.

The Board of Commissioners of State Institutions being more familiar with the necessities and conditions attending the beginning of the establishment of a State prison farm, are a unit on the subject that this appropriation, at least, should be invested in land to constitute a nucleous for a State penitentiary of Florida.

While I am discussing this question, the Board of Commissioners of State Institutions has a committee in the field reviewing some tracts of land which have been inspected by an agent chosen by said Board, with a view of purchasing several thousand acres.

The Board recognizing the fact that it was impractical, with a small appropriation of $50,000, long drawn out, in its availability, in the language of the statute, the same being as above stated, in quarterly payments of $10,000 each, to undertake to purchase a suitable prison farm, erect buildings, purchase stock, farm implements, and otherwise equip a State penitentiary and at the same time, recognizing that it was their duty as the representatives of the people of the State to withdraw the disabled and female population from the lease, they entered into an agreement with the lessee company to take the place of the State or the Board representing the State in the matter of caring for these classes of our prison popula, tion, in line with the ideas expressed in said statute, until the State authorities, or the Board should have sufficient funds placed at their disposal to properly carry out the policy as represented in said act of the Legislature. The lessee company agreeing to act for the Board as above stated, to erect suitable buildings and proper and comfortable equippage and at their own expense, clothe, board, furnish medical attention, guard and otherwise maintain and care for the female part of the prison population of the State, the State in no way being liable for any of the expenses necessary for the maintenance of the female class of our prison population, this agreement to be continued by the said lessees until the Board might find itself in a situation to properly locate, care for and maintain the female prisoners on properties that might be purchased for the use of the State as a penitentiary or prison farm.

This class of prisoners is recognized in all states to be an expense to the State and not self-sustaining, much less remunerative.

In effect, the same arrangements as have heretofore prevailed, were made by the present lessee company for the care and maintenance of the disabled, diseased and otherwise disqualified from doing manual labor at the regular labor camp, the lessees defraying all expenses necessary for the proper maintenance of a central hospital for the purpose.

The State Prison Physician employed by the Board of Commissioners of State Institutions and under the pay of the State personally examines and passes upon the question as to whether a prisoner should be sent to the central hospital or not and upon the recommendation of the said State Prison Physician, prisoners are ordered removed from the central hospital. The physician, in each case, files a report with the lessee company and with this office, setting out the disease or cause for disqualifying the prisoner for manual service. When the physician concludes a prisoner has become capable of performing reasonable service, he is at once placed upon the permanent pay roll and is charged to the lessee company as a full pay prisoner.

The State Prison Physician, Dr. R. A. Willis, and the prison surgeon, Dr. S. H. Blitch, the latter having been for a number of years connected with the prison work, having given prison matters considerable thought and care and having been a close and daily observer of hospital patients, are both decidedly of the opinion, as have been other physicians who have made a study of hospital conditions, that some prisoners become in time what they term "hospital sick" or to some extent "hipped." They find also a class of prisoners that are unfit for regular service but having diseases of such a nature that they could perform some remunerative service. At least they were of the opinion that it would be better to place some of these prisoners in the care of some responsible person who could use them so that they would at least be self sustaining and, in some cases, capable of remunerating the State to some extent.

The Board authorized the lessee company to enter into an arrangement with Hon. R. F. Rogers, who had, as Supervisor and as a sub-lessee, much experience in connection with handling prisoners and had demonstrated his humane disposition and unusually kind treatment of prisoners placed in his custody, whereby a number of hospital subjects are placed in his care and keeping. The State Prison Physician quarterly examines each and all of these prisoners, grading them according to his judgment of their physical ability to perform service. Those that are capable of performing more service than simply their care and keep are placed on a pay roll based upon the physical condition of each prisoner separate and apart. This revenue derived from this class of prisoners is paid wholly to the State through the lessee company, the amount being charged to them the same as a full pay prisoner is charged, the lessee company receiving no per capita profit on any such prisoners. In this way this class of prisoners is made self-supporting and it also prevents an overloading or congesting of the hospital. When any of these prisoners become capable of performing reasonable manual labor they are placed on the full pay roll chargeable to the lessee company.

Frequently it is found necessary to return these prisoners to the central hospital as they do not always make the improvement that is hoped for them. In this way the very best judgment is being exercised for the benefit of the prisoners and, at the same time, the interest of the State is being protected.

THE PRESENT COMPARED WITH THE PAST.

For any one to properly appreciate the conditions that now surround our State prisoners, it is necessary for him to not only be familiar with their immediate surroundings by personally visiting the different camps, but to have some knowledge of the conditions that existed but a few short years ago. With this information, we are better qualified to appreciate the important advancements and improvements that have been gradually but continually developed in the lifting of our system more nearly up to the present 20th century idea of utilizing prison labor.

We do not have to read many pages of prison history to locate the period when the State had practically no immediate or direct connection, supervision or control over its State convicts. The institution of the Supervisor of Inspector brought the State, through its officers, in direct touch with the prisoners in their field of labor. As the camps were distributed more generally through the State and as the prison population increased it became necessary to increase the number of Supervisors. To these the Board soon added the State Prison Physician, whose duty it is to pass upon the physical condition of the prisoners at their various camps, that he may advise the State intelligently as to whether the sub-lessees are furnishing capable medical treatment to the prisoners in their charge, and, being better qualified than an ordinary layman to intelligently report on such matters, it is also his duty to advise concerning sanitary conditions looking to the health of the prisoners. In this way the State assumed control of the immediate management of wardens and guards who are in daily contact with the prisoners.

This class of managers are required to take an oath before entering upon their duties. This oath is in regular prescribed form, issued by the State, under which the guard becomes a part of the State police and subject to discharge by any Supervisor. A complete record of the wardens, or captains, and guards is kept by one of the Supervisors for the convenience and information of the Supervisors and in the office of the Commissioner of Agriculture, in order that the State may be advised whether it is proper to approve the application of a guard for service, as a record is kept in this Department of the discharges for cause of all refractory guards, so that they may not enter the service in another part of the State.

We now maintain at every State prison camp a small library or book case, furnished with reading matter proper for the use of prisoners.

Capable white ministers are engaged to preach at least once a month to the prisoners and those in charge of the camps. Occasionally we find it difficult to secure ministers at some of the more remote camps, but this does not exist for a very long period of time at any one camp.

Chaplains preaching at the various camps speak very encouragingly concerning the results attending their efforts, demonstrating beyond question that there is hope for reformation and reclamation of those who have been eliminated from society on account of their disobedience to law and order.

These are a few of the many improvements that have been and are being applied to the administration of our prison work, which are not only to the advantage of the prisoners from a physical and moral standpoint, but redound to the credit of the citizens of our State.

PRISON POPULATION—HOW EMPLOYED.

Under the present lease contract all male prisoners capable of performing manual labor are engaged in the turpentine and lumber industries of our State. As Florida produces perhaps more than half of the naval stores products of the United States, and prices prevailing being high, we are able to secure the highest prices for the labor of our prisoners of any section of the country.

I know of no line of employment in this warm climate where the prisoners could be engaged that is more advantageous to them from a health standpoint. The open air and pine forests furnishing a field that cannot be excelled for its healthfulness.

The headquarters, or concentration camp, is a saw or lumber mill, where the prisoners remain for a short time until they are distributed to their regular labor camp in the turpentine field.

By referring to the tables in connection with the prison branch of this report, it will be found that our death rate is surprisingly low, in fact, much lower in proportion to the population handled than that of other Southern States in so far as I have been able to investigate.

For the year 1909 there were but fourteen deaths from all causes. For the year 1910, twenty deaths from all causes.

It might be interesting to draw some comparisons with other States. Take, for instance, Louisiana, which had on

April 1st, 1909, 2,006 prisoners working on farms, with the exception of some 750 that are engaged in levee work and some road or pike contract work. During 1908 they had 49 deaths; during 1909, 45 deaths.

The State of Alabama has an average of 2,500, their report being for four years. During the said four years they had 270 deaths, and with an average of 724 county or misdemeanor prisoners under State supervision, they show 149 deaths in this class.

In the State of Mississippi, with 1,628 convicts, they had 52 deaths in two years.

These States all work their prisoners principally on farms. With the exception of leasing out a portion of their able bodied prisoners, they have been gradually eliminating their prisoners from the lease to the farm work.

Our prisoners being so distributed that we have from 25 to 50 only at one prison camp, they are much more easily kept under proper discipline, and especially since the female class of our prisoners has been removed from the different local camps, is this true.

We are not so subject to epidemic diseases as we would be if our prison population was congregated at one central point.

We herewith submit a list of the sub-lessees immediately in charge of the different camps, together with the location of the various State prison camps as now established.

Names of sub-lessees and location of the camps operated by them:

Name of Lessee and Location.	No. of Prisoners.
Rogers-Tiller Co., Conner	52
Central Hospital (2 camps), Ocala	123
J. W. Ward, Jr., Ringgold	46
M. W. Ulmer & Co., Largo	48
Taylor County N. S. Co. (2 camps), Perry	48
Sweat & Flowers, Blountstown	28

Walton Land & Timber Co., Bruce	66
Southern Timber Co., Southport	22
Smith-Edwards-Ewing Co., Starke	32
J. S. Smith & Co., Green Cove Springs	36
J. T. Sauls & Co., Hickman	8
N. S. Rogers & Co., DeLand	32
W. B. Phifer & Co., Rochelle	49
P. M. Padgett & Co.,)	
P. M. Padgett & Co.,) Alva and Raiford	50
D. G. McCormick & Co.,)	
D. G. McCormick & Co.,) Edge and Labelle	48
T. E. Bridges Co., Lilly	38
R. S. Hall & Co., Charlotte	32
Hall Lumber Co., Terrell	19
J. S. Fisher & Co., Otter Creek	59
Escambia Land & Mfg. Co., Pace	42
R. L. Black & Co., Highland	37
S. W. Allen & Co., Walkill	39
R. H. McDougall & Co., Fruitville	23
Hall & Harrison,)	
Hall & Harrison,) Bayonne and Venice	49
Hall, Meggs & Townsend, Ocala	59
H. Elliott & Co., Milton	29
Dowling Park N. S. Co., Perry	38
DeLeon N. S. Co., DeLand	37
Clark-Meggs Co., Cow Creek	38
Malloy Brothers, Perry	23
Malloy Brothers, Perry	22
Hall & Cheney, Ocala	19

WHAT SHALL BE THE FUTURE METHOD OF HANDLING OUR PRISON POPULATION?

I regard it as bad business policy for our Legislature to ignore the fact that the day is not far distant when our prisoners will be removed from the fields of labor now so remunerative to the State. While we are realizing unheard of prices for our prison labor under present conditions, it is good business policy, in my judgment, for the Legislature representing the interests of the people of the State, to utilize part of the revenue being derived from the labor of the prisoners to purchase in two or more parts of the State several thousand acres of land while lands are comparatively cheap in Florida and to erect permanent buildings and equip said buildings and farm by degrees for the use of her prison population and, as has been and is being done by other states who have heretofore operated under a system of leasing, gradually withdraw from the lease by a system of grading, each year, a portion of her prison population and place them on these farms where they can at least be self-sustaining. By this process we can use the ablebodied to help carry out this policy without imposing upon the people of the State an unnecessary burden of taxation to reach the end that is unquestionably confronting us in a not far distant future.

By way of information as to what will be necessary to accomplish this, I will submit some data I have gathered by reviewing reports from other southern states that are undergoing this system of change that we must undergo whether we will or no.

Take first Mississippi. This State has purchased four large farms, the exact acreage I have not been able to secure, but their report gives the value of their real estate at $635,040, and their personal property, constituting mules, wagons, implements, stock, etc., is invoiced at $293,037.27, representing the grand total of $928,077.27. Their prison population is represented at 1,628. For last year they figure the improvements permanent in the nature of buildings, etc., to increase the value of their real estate to $830,143.

I noticed Wisconsin with a prison population of an average of about 640, estimates the value of their real estate for prison purposes at $600,000.

The State of Louisiana has purchased six farms containing 15,000 acres at the original cost of $409,075.

We might go on and give other illustrations but I deem the above sufficient to demonstrate that should we be so short sighted as to omit the purchase of sufficient land while we have a revenue derived from the labor of the prisoners and are able to do so without imposing a tax burden upon the people, we will find ourselves shortly confronted with a condition that will necessitate the imposition of a heavy tax burden upon the people of our State in order to secure sufficient land, erect proper buildings and otherwise equip the buildings and farm for maintaining our prison population.

I have given the above illustration for information to the public and especially to the Legislature that they may be fully advised that it will require a considerable outlay of money for the State of Florida to equip prison farms and a penitentiary so that the prisoners will be capable of sustaining themselves without cost to the State and perhaps furnish some clear revenue to be utilized for other purposes. It is very evident this latter point cannot be attained until we have expended considerable money.

The question is, Will we be wise and take the necessary precautionary step while conditions are such that we may do so without feeling the burden? Let the consequences be what they may, I shall feel that I have at least done my duty in sounding the note of warning and by other demonstrations, that I regard as positive proof, have indicated what the consequences will be.

METHODS IN USE TO PREVENT ESCAPES.

I cannot do better under this heading than repeat in effect what I presented in my last report, as the same questions prevail and the same methods are today in use, with some small modifications and changes found advantageous to be applied as observations and experience have suggested from time to time.

Under the general head of requirements this sub-division needs special mention.

The lessees are required to keep a corps of guards on duty equal to one for each five prisoners in the camp; one mounted man to each twenty-five prisoners and two trained bloodhounds. I wish to state in this connection that the general idea of a bloodhound is all imaginary—a bugaboo, manufactured out of the same material that confronts "the mill boy who whistles to keep his fears away." All from nervous imagination that has the effect, seemingly, of a nightmare. Many, very many prisoners, working in the open as they do, have attempted to escape, but with the aid of the bloodhound has been soon tracked and recaptured. But in no instance have I ever heard of such a thing as one being hurt by a bloodhound. The hounds only serve to inform the pursuers of the route the fugitive has taken, and when he changes his course. The negro's fear of the bloodhound trailing, keep many in the camp that would otherwise hie himself off to freedom.

For holding the prisoners at night an armed guard occupies a room or cell in full view of the hall, but removed from approach by the prisoners. The hall is lighted to give him full view of the inmates. In large camps, a floorwalker, unarmed, is locked in with the prisoners. But one prisoner is allowed up at a time, and then by permission of the night guard.

METHOD IN USE TO RECAPTURE PRISONERS.

In connection with this subject, as in the one immediately preceding, conditions and requirements are, from necessity, identical with those prevailing when we published our last report. I do not think I can do better than give in substance the same facts then narrated.

In addition to the requirements outlined above to prevent escapes, we have specific requirements of the lessees to effect the recapture of those who evade the efforts of the sub-lessees to hold them. The lessee has photographs and descriptions taken of each prisoner on arrival at the prison headquarters. Upon an escape being effected, notice is wired to headquarters at once, and immediately photographs with detailed descriptions are sent to all sheriffs, chiefs of police and many others in and out of the State, where it is thought likely the prisoner will go. This notice carries a guarantee by the original lessees that they will pay the sum of $100.00 reward to any one delivering the escape to the camp from which he left. It matters not if a prisoner has but a short time to serve when he escapes, the reward notices are sent out, and the same amount paid for the delivery of the prisoner as stated. The lessee pays for all the expenses described under the general head of Requirements.

Prior to the last lease, none of these demands were obligatory on the lessee. During 1906 I took another step forward on the line of recaptures. The Board of Commissioners of State Institutions permitted me to have photographs and descriptions of all escapes for ten years back printed in neat book form, convenient for officers to carry in their pocket, to aid in apprehending those escaping prior to the present lease, for the recapture of which the present lessees are not liable. The State agreeing to pay the same reward that is required of the lessees for escapes under their lease. Several old escapes have been identified and returned to serve out their sentence as a result of this plan.

In the case of an escape the Board requires each case to stand upon its own merits as to whether the lessee has used due diligence in his efforts to hold the prisoner in the first place, and that he has used all reasonable means to apprehend the escape. If, in the judgment of the Board, the lessee has faithfully done all that is reasonable to demand of him they can release the lessee from further charge for time. But the lessee is still obligated to pay the outstanding reward if any one apprehends and returns the prisoner. I regard it as remarkable that so few escape, when we consider that our prisoners are worked in the open woods, as a general rule. By reference to the tables given elsewhere in this report, the number escaped and recaptured may be found. Those that escape and are traced and apprehended the same day are not noted as escapes. They are only noted on our records to indicate their conduct, for an attempt to escape, or to escape, deprives the prisoner of gain time under our rules. Matters of this nature I take up seriatim and consider time of services, future conduct and conditions surrounding the case, and pass on it as in my judgment I consider right and just. Convinced, as I am, that repentance for wrong done by a prisoner, as evidenced by meritorious conduct thereafter must be encouraged to secure the purpose of proper punishment in prison, I try to ever keep the hope of reward awake in his breast. I strive to impress the results of good behavior on all prisoners by giving practical examples of clemency, insofar as I have the power, as the immediate head of the system, to do so. In connection with this subject of requirements, I direct special attention to the rules and regulations as promulgated by the Board of Commissioners of State Institutions and required posted in and outside of each stockade. See index on first pages.

In this connection I here give the schedule of gain-time for good behavior. This exerts a wonderful influence for good among the prisoners. Some States increase the per cent allowed according to the term of years they are sentenced to serve. I have noticed as much as one-third extended to prisoners sentenced to twenty years and up. Experience has taught all persons connected with prison work, that we fall short of accomplishing the purpose of a sentence when we destroy hope in the prisoner.

GAIN-TIME ALLOWED PRISONERS FOR GOOD BEHAVIOR.

TERM OF SENTENCE.	GAIN TIME.		
	YEARS.	MONTHS.	DAYS.
1 year	....	1	21
2 years	....	3	12
3 years	....	5	3
4 years	....	6	24
5 years	....	8	19
6 years	....	10	6
7 years	1	....	....
8 years	1	1	18
9 years	1	3	8
10 years	1	5	4
11 years	1	6	25
12 years	1	8	16
13 years	1	10	7
14 years	1	11	28
15 years	2	1	23
16 years	2	3	13
17 years	2	5	4
18 years	2	6	26
19 years	2	8	16
20 years	2	10	8

HOW I KEEP IN TOUCH WITH THE WORK.

The law requires the lessee company to maintain, at their expense, a headquarters camp, or a business center, for the transaction of all business arising between the State authorities and the lessee company. At this office is kept a duplicate of our records, insofar as it relates to the particular prisoner on hand, his term of imprisonment, etc. Each sub-lessee is required to keep at his camp a register, in which must be recorded daily rations of every kind issued to the prisoners in his immediate charge. At the end of each month a full report must be sent in to the headquarters camp, on blanks furnished by this Department, of the kinds of food, amount of each, and the articles of clothing or bedding of every kind, giving a full detailed schedule, even to amount of tobacco per capita per week. Also the number of punishments, cause of punishment and amount administered to each prisoner. A register is furnished by the State to each camp, which is printed in convenient form to show the date, name, etc., giving the facts connected with a punishment. I here present the form used, for information:

PRISON PUNISHMENT RECORD.

Camp of .... Location ....Co., Fla. Month Ending....................190..

Prison No.	Name of Prisoner	Date Punished			Why Punished	No. of Licks	Lacerated	Offense		By Whom Whipped Signature	Whipping Recommended by Signature	REMARKS
								1st	2d			

I hereby certify the above to be correct:

....Lessee ....Captain.

This monthly report is delivered to a supervisor who attends to this part of the work. The supervisor compiles this report in a more condensed form, on blanks furnished for this purpose. On this revised report the supervisor makes notes of any matter that he desires to call my special attention to, and sends the report to this office for my inspection. I review these camp reports carefully each month, noting any shortage in variety or quantity of food and any unusual or unexplained punishments I may find reported. Any criticisms, suggestions, or inspections that I deem necessary to make, or any matters that I think need looking into and reporting on further, I take up at once by letter with the central or head office, or a supervisor, or with them all, as the case demands.

These reports are given in the fullest details, and are filed in this Department for future reference, or the inspection of any citizen of the State. I frequently invite citizens, when at the office, to go through and examine these monthly reports as a matter of information and interest to them. All unusual occurrences, at any camp, such as a change of location of a prisoner, escapes, recaptures, attempt to escape, accident or death, is required to be reported promptly to the headquarters office, and from that office to this Department. For information I here present the form used in making out the monthly report by the Supervisors.

REPORT OF SUPERVISOR OF STATE CONVICTS.

Month Ending ...., 191.. Convict camp at .... Postoffice,
.... County, Fla., Telegraph Office .... Fla.; From R. R. .... Miles

.... Lessee.
.... Captain of Guards.
.... Manager,
.... Chaplain.

Number convicts in Month .... Average Number Convicts Daily ....
Negro Males .... Negro Females .... White Males .... White Females ....
Number of Squad Guards .... Yard Men .... Night Guards ....
Number of Dogs .... Condition .... Garden .... Condition ....
Prisoners lost in month: Died .... Escaped .... Discharged .... Pardoned ....

Bacon,			Undershirts		Punishments and inspection.
Pork or beef,			Striped shirts,		Date last inspection .... 191..
Meal,			Drawers,		Punishments, how many ....
Flour,			Striped pants,		Why punished and number of licks each ....
Rice or grits,			Coats,		
Dried beans or peas			Hats,		
Syrup, gallons,			Shoes,		
Sweet potatoes,			Nightshirts,		
Irish potatoes,			Pair Blankets,		Condition of prisoners ....
Vegetables,			Sheets,		Condition of camps and barracks ....
Coffee,			Mattresses,		Recommended ....
Sugar,			Pillows,		Condition of sleeping cell and equipment ....
Tobacco,			Pillow Cases,		Recommended ....
Lard,			Iron Beds,		Condition of dining cell and equipment..........
Soap,					Recommended ....
Canned goods,					Condition of kitchen and equipment ....
Fish,					Recommended ....

Remarks:
....
....
.... Supervisor State Convicts.

The court commitment, which is the authority for removing the prisoner from the county jail to the prison, is delivered to the officer who collects the prisoners from the jails to the officer in charge of the headquarters office, and after numbering for record, is sent to this office, together with a detailed description of the prisoner, advising us at what camp the prisoner has been placed. In addition to the information gathered through the above line of communication, we now have four Supervisors of State prisoners, appointed by the Governor and paid by the State from the funds arising from the hire of State prisoners. There is one State Prison Physician appointed by the Board of Commissioners of State Institutions and paid from the Prison Fund as Supervisors are paid. This physician has supervision over State camps only. His duties are more fully explained in another part of this report.

The Supervisor, having suggestions obtained from an inspection of the reports above outlined, inspects the books at the camps to ascertain for his satisfaction if the reports and the books agree. He inspects the storehouse and notes the quantity and kinds of food used. He inspects the food in the kitchen, on the table at meals, and the food as found in the woods in the prisoner's dinner pail. A Supervisor who has the judgment necessary to qualify him for such a position can soon tell, by looking at a squad of men, whether they are well fed and provided for or not. If a squad of prisoners is found to be dull, depressed, haggard and wan in their appearance, there needs to be some thorough overlooking and searching investigation put into action at once. The Supervisors have still another method of knowing whether the camp reports are true and correct or not. The prisoners are taken in charge by the Supervisor, separate and apart from captain, guards, or sublessee, and questioned as to the persons punished, when, and to what extent. What food is given, morning, noon and night, and if sufficient; and what their rights are in the event a prisoner wishes more food, etc. If the Supervisor is in doubt as to the amount of work required of the prisoner it is easy to take notes from the sub-lessee's report, then the captain of the guards, and next of the different squad guards and from the *more reliable prisoners.* And here I want to state that among the prisoners there are those that we soon learn to depend upon for the truth.

The Supervisors now have slip books, in printed form, from which they mail reports to this office daily when out on an inspection tour. This keeps me posted promptly on anything occurring out of the ordinary and of the general conditions of the camps. This is a new advance, never in use in this State until last year. If anything is found that calls for immediate action on my part, by means of this daily report, I get the information promptly and govern myself acordingly. The following is a copy of the daily report referred to:

INSPECTION OF ....CONVICTS
Contractor ....
Location .... Date .... 190..
Colored Males .... White Males............
Colored Females .... White Females..........
Captain .... No. of Guards ......
Dogs .... Condition .... Garden..........
Condition .... Chaplain ....
Health of Prisoners ....
....
Prisoners Ordered to Central Hospital.................
....
Sanitary Conditions ....
....
Condition of Location..................................
....
Clothing and Bedding...................................
....
Food ....
....

Punishments ....

....

General Remarks ....

....

....

....

Supervisor.

Without waiting to complete his tour of camps, a Supervisor is required to follow his daily memorandum with a letter when matters that need immediate attention arise. Supplemental to these reports outlined above, a Supervisor, on his return from a tour of inspection, is required to make a special typewritten report on each camp. In this report matters are gone into in detail when anything has been found that needed special action on the part of the Supervisor, or suggestions from him as to what he desires to recommend in any particular case.

In as brief a manner as possible, I have tried to make clear some of the methods in operation to keep the State authorities, through this Department, in close touch with the conditions existing at each camp.

STATE SUPERVISORS.

Since the Legislature of our State amended Section 4162 of the General Statutes and again in 1909 passed an act entitled, Chapter 5963, Laws of Florida, the latter placing the general supervision of county prisoners under the direction of the Commissioner of Agriculture, the field of labor has been so widened and extended that the four Supervisors now employed by the State are kept constantly in the field conducting their work of inspecting State and county prison camps. The State Prison Physician is not called upon to inspect the county prison camps. His work is limited to State prisoners only.

I have in former reports discussed so fully my views as to the duties and responsibilities, as well as the requirements or qualifications of a Supervisor, that I do not deem it necessary to go into this subject in my present report.

Under our law, the Governor appoints the Supervisors who, after receiving their appointments, perform their duties under the direction of the Commissioner of Agriculture.

Dr. R. A. Willis of Greenwood, Florida, is the present State Prison Physician and was selected by the Board of Commissioners of State Institutions.

The following individuals now constitute the force of Supervisors doing service for the State: Mr. John T. Lewis of Marion County, Mr. John Neel of Holmes County,, Mr. J. D. Ferrell of Jackson County and Mr. J. B. Thomas of Madison County.

While I have endeavored to the very best of my ability to give to each and all of the Supervisors what advantage I might have by virtue of my having been connected with and a close student of prison conditions in our State for a longer period of time than any of those now performing the duties of Supervisor, I find it not only my duty, but my pleasure to say that I have found each Supervisor energetic, earnest and conscientious in his efforts to co-operate with the Commissioner and to relieve him, as far as possible, of the many worrying details that necessarily attend the management of a State prison system. I most sincerely thank each and all of them, including the State Prison Physician, for the kind and courteous bearing at all times extended me as well as for the valuable service they have rendered the State, the lessees of State prisoners and the prisoners themselves.

In this connection, I wish to express my appreciation for the many courtesies shown me by Dr. S. H. Blitch, the Central Hospital Surgeon and Physician. I have always found the doctor much interested in and ready to discuss and, in every way possible, to assist along the lines of improvement and advancement of our State prison system. Very many valuable suggestions we have had the benefit of from the doctor's close study of prison matters. I have never seen any one in whom the prisoners had more confidence than have the sick and afflicted at the central hospital, who are mainly under the observation and care of Dr. Blitch.

You will find following my discussion of prison matters, the report of the State Prison Physician, Dr. R. A. Willis, and of Dr. S. H. Blitch, Hospital Surgeon and Physician, together with the report of Dr. Blitch on the subject of his visit, as one of the representatives of the Board of Commissioners of State Institutions, to the Inter-State and Inter-National Prison Congress that met in Washington, D. C., in the fall of 1910. Also the reports of the different Supervisors as to their work.

COUNTY PRISONS.

When the Legislature amended Section 4162 of the General Statutes, authorizing the Governor, with the approval of the Board of Commissioners of State Institutions, to increase the number of Supervisors, the Governor used the State Supervisors as his medium of supervising the county prison camps of the State, it having been made evident that this part of Florida's prison system had been materially neglected and for the want of education on the subject of prison matters by those generally in charge of county prisoners, the Governor requested the Commissioner to have Supervisors inspect and report on county prison conditions. As a result of these investigations material improvements were made, but it being evident that conditions in this State were similar to those in other states and in order to accomplish the betterment of our county system, our Legislature followed the legislation in other southern states as it was found necessary in order to accomplish anything of any value that there should be one central head and common system, hence, the Legislature of 1909 pased an act entitled, Chapter

5963, Laws of Florida, placing our county prison systems of the various counties under the general supervision and direction of the Commissioner of Agriculture, authorizing the inspection and supervision by the State Supervisors, together with the promulgating of a system of rules and regulations by the Commissioner of Agriculture with the approval of the Board of Commissioners of State Institutions, for the betterment of the county prisoners.

I take pleasure in reporting that county prisoners, where leased as State prisoners are, for use in turpentine work, receive the same care and treatment and are governed by the same rules and regulations as those in force in State prison camps. The character of stockades, clothing, food, bedding and other equipments is identical with that used in the State prisons.

Many of the counties are using their misdemeanor or county convicts in public road building. I am glad to note that, generally speaking, the County Commissioners of the various counties have shown an earnest interest in having their county prison camps maintained along the lines suggested by the Commissioner through the State Supervisors. The improved condition of county prisoners and county prison camps in the last two years has been very marked and satisfactory. I certainly appreciate the kind co-operation that I have received at the hands of the various Boards of County Commissioners.

REPORT OF STATE PRISON PHYSICIAN.

Marianna, Fla., January 25, 1911.

Hon. B. E. McLin,
Commissioner of Agriculture,
Tallahassee, Fla.

Dear Sir:

Please note below my annual report as physician to State Convicts. This report deals with the number of miles traveled by railroads, number of miles traveled on water and the number of miles traveled by private conveyance, as near as I can estimate it, together with my work as physician to State Convicts covering the period of time from January 1, 1910, until January 1, 1911.

I traveled 15,000 miles on two-cent mileage, 3,000 miles on two and one-half-cent mileage and about 500 on railroads that do not take mileage; therefore, I have traveled about 18,500 miles by railroads.

I have traveled on water as near as I can estimate it during the year 1910 about 1,200 miles.

As near as I can estimate it, I have traveled by private conveyance for the year 1910 about 3,650 miles.

The Central Prison Hospital, located near Ocala, is well kept, and the sanitary condition of this hospital cannot be surpassed at any prison hospital I have ever visited. This hospital is a God-send to the prison system of this State, because it furnishes a place for the blind, one-arm and one-leg prisoners, also the unfortunate that is suffering from tuberculosis in its last stage, the prisoner that is in the last stage of bright's disease, also the prisoner that is suffering from organic heart disease, and other organic diseases too numerous to mention.

At the beginning of the last lease, which was January 1, 1910, I recommended as strongly as I could, through your office, that the female prisoners be taken from the various prison camps in this State and placed where they would not come in contact with the opposite sex, except the guards that have them in charge. On my visits to the various prison camps where there would be from one to three females, I always found that the presence of these females would cause more or less demoralization, and I have had the captain of several prison camps to tell me if the State would just take these women, that they would be glad to pay for them in order to get rid of them from their various camps, consequently it is needless to say that removal of the female prisoners from the prison camps is an improvement. Yes, I say that this is a most wise act of the Board of State Institutions. It has become more of a pleasure to visit the prison camps all over this State since we have made the improvements in sleeping cells and general sanitary conditions of prison camps. together with the sewerage system, and an abundance of good, pure water. In visiting the female wards, I always find their quarters neat, well kept, and in a perfectly sanitary condition, all of which is very gratifying to me and I am sure to yourself and the Board of State Institutions.

AS TO TUBERCULOSIS AMONG STATE PRISONERS

When it becomes necessary to certify a prisoner to the prison hospital with tuberculosis, the management there is prepared to take the best care of that class of patients, as well as others. They have a tubercular ward, and therefore, keep them separated from the other prisoners. Just as long as a prisoner with tuberculosis can work, it is best to keep him at it and out in the open air, there fore, you see the wisdom of having these prisoners at the kind of work that is being given them to do, out in the open air and on the turpentine farms of the various sublessees in this State. My opinion is that tuberculosis is on the decrease in the chain-gang of Florida.

THE INROADS UPON THE COLORED RACE OF SYPHALETIC TROUBLE.

I find that the great majority of colored prisoners sentenced to prison now are physical wrecks, and the prevailing cause as far as my investigations have gone, is syphilitic affections. I find at least 75% of the colored prisoners with syphilis in some of its stages. The most remarkable part, however, of this disease is the natural tendency to improvement with the proper antisyphilis treatment, good sanitary surroundings, open air, work and regular habits, therefore, it is surprising to see how these prisoners' physical condition will improve after having been in the State prison for a while.

DEATHS AT CENTRAL HOSPITAL.

In the year 1910 deaths as follows:

Number 8251, Ed Mitchell, died March 1, of tuberculosis.

Number 8189, Anthony Glover, died May 21, of pneumonia.

Number ——, Ely Kearsey, died June 1, of tuberculosis.

Number 7896, Josefernandiz Vasquez, died August 10, of tuberculosis.

Number 8878, Warren Brown, died August 24, of dropsy and heart disease.

Number 8933, Jim Hunt, died October 24, of organic heart disease.

Number 8683, Ben Thomas, died October 15, of organic heart disease.

You will note that all the deaths, but one, have been chronic organic heart diseases or tuberculosis, and a very small death rate at this hospital, taking into consideration that we have on an average of 150 hospital prisoners and only seven deaths during the year 1910 at this hospital.

Respectfully submitted,

R. A. WILLIS,
Physician to State Convicts.

REPORT OF DR. S. H. BLITCH.

Ocala, Fla., January 25, 1911.

To the Hon. B. E. McLin,
Commissioner of Agriculture,
Tallahassee, Fla.

Dear Sir:

Having been honored by you with appointment as one of the representatives of Florida to the American and International Prison Congress held in Washington, October 2-8, 1910, I respectfully submit the following report of transactions of the American Prison Congress, which will, of necessity be brief, as the greater part of the session was devoted to the International Congress. Unusual importance attached to our gathering as attending were expert criminologists from most of the civilized countries of the world.

Our Association as you are aware, meets annually to discuss matters relating to crime, its origin and prevention; criminals, their treatment and reformation; laws for regulating the punishment of crime and the treatment of criminals and many other questions covered in the general field of criminology. The object of the general meeting was to bring together experts from the various fields of work to discuss methods and systems and to exchange experiences. The membership is composed of prison and reformatory officials, members of boards of managers, physicians, chaplains, judges, lawyers, Governors and others interested in or connected with the administration of criminal law and penal and reformatory institutions.

President Taft received the Congress at the "White House" and emphasized the remark that such an association is an evidence of the growing civilization of the world especially since so many countries take an interest in the proper humane development and treatment of criminals and warned the association against making prisons so comfortable as to furnish a motive for violating the law with the hope of being returned to prison.

"Convicts and Conservation" was the subject of President Amos W. Butler's address to the congress. He opposed the old system of criminal law which demanded "An eye for an eye, a tooth for a tooth," and suggested that the purpose of the "new criminal law" was to insure the proper treatment of the criminal.

"Nothing is more important than labor, steady, systematic, productive labor, being the prime essential in the betterment of men, whether in or out of prison."

The jail was roundly attacked.

"Our County Jail System is a continual reproach, the inmates of which are not only permitted but compelled to remain idle. The system is bad, conditions worse and altogether there is not a more foul blot upon our civilization than this."

The matter of the utilization of prison labor was and will be discussed whenever and wherever a penolical body is gathered.

The *"lease system"* was not so much abused as in former gatherings, not a few believing the chief difference in the three systems now in vogue in this country, *"lease," "contract"* and *"public account,"* "after all is largely a matter of administration, utilization of labor, little being known by most persons and not well understood by those who have dealt practically with prisoners."

"The problem of employing prisoners throughout the world has attracted so much attention and yet found no solution, that it is necessary in the consideration of the question of convict labor to recognize the varying conditions and circumstances of the State."

"The proper conservation of our natural resources and employment of convicts are two great problems, e. g., if prisoners make again habitable the abandoned farms of Massachusetts and remove the boulders from the rich soil of Rhode Island, why not reclaim the tide flats of New Jersey and the everglades in Florida?"

Our Governor, Albert W. Gilchrist, in the discussion of "Criminal Law Reform," delivered an instructive and much applauded address. He assailed the criminal law as a "relic of barbarism."

"Two often is the operation of law in the United States, the kidnapper of Justice," he declared.

"It is hard to get any reform of law which affects the lawyer's pocketbook and it is common place among lawyers that any man can get an appeal from a court decision if he has money enough."

"Abolish sentimentalism from the consideration of prison reform and let the question be handled by practical men."

The Governor incidentally remarked: "The law's delay in the punishment of criminals is responsible for the growth of crime in the United States," and added that "Judge Lynch often presides in the South because of such delay."

For thirty years American criminologists made uneffectual efforts to get European members of the Congress to endorse the principles of an indeterminate sentence which was agreed on at this session.

REPORT OF THE INTERNATIONAL PRISON CONGRESS.

PRESIDENT, C. H. HENDERSON, Chicago, Ill.

I shall give only a resume, i. e., the consensus of opinion crystalized into resolutions and adopted as the views of the Congress.

Following are the resolutions:

JUVENILE OFFENDERS.

I. Young delinquents should not be subjected to the penal procedure now applied to adults.

II. The principles that should guide the procedure applied to young delinquents are as follows:

1. Those who are entrusted with the cognizance of the cases of young delinquents should be primarily chosen for their ability to understand and sympathize with children, and should have some special knowledge of the social and psychological sciences.

2. They should have the assistance of probation officers to make preliminary examination in each case and to watch over and help those put on probation.

3. There should be made in connection with the cases of young delinquents, such examinations as will contribute to the fund of information on juvenile delinquency and the results should be used wherever practicable to help in the disposition of the case. Medical examinations should be made only by physicians who have some special knowledge of the social and psychological sciences. The personal information obtained in these examinations shall not be made public.

4. Whenever possible in the case of young delinquents, arrest should be avoided in bringing them before the authorities and orders for arrest should be issued only in exceptional cases.

5. When necessary to detain young delinquents, the detention should not be in quarters used for adults.

6. In those countries where a court is entrusted with the cognizance of the cases of young delinquents:

(A) Such cases should never be heard at the same session with cases of adults, and

(B) It should be the tendency in the trial of juveniles to proceed as far as practicable by way of conference for the good of the child instead of contest about and over the child.

III. Those who are entrusted with the cognizance of the cases of young delinquents should also have the cognizance of the measures needed in the interest of abandoned or maltreated children.

IDLE AND VAGABOND CHILDREN.

"What measures should be taken to correct the idleness and vagabondage of children in large cities?"

"It is resolved that to prevent habits of vagrancy and idleness among children in large cities there should be:

"I. Laws making parents responsible for the wrongdoing of their children; to compel deserting fathers to return to their duty or to support their children; allowing children to be taken from unfit homes and properly placed for training and care.

"II. Greater co-operation between school authorities and the public, better adaption of school curricula both in interest and in practical use to the individual needs of the children; and that there should be more kindergartens and greater recognition of training in hand work for the children.

"III. Vast additions to playgrounds, wholesome recreation centers, gymnasiums and athletic fields, as the surest preventatives of juvenile mischief and crime and as affording young people places where they may learn to bear defeat with courage and success with modesty.

"IV. Lectures to parents on practical subjects that shall tend to make better and happier homes as the wisest way to keep children from the idle, wandering life.

"V. A stronger influence on the part of the press and the pulpit to enforce the sentiment that the best bulwark against juvenile delinquency is to care for the children in such a way as to prevent them from becoming vagrants and idlers.

CHILDREN BORN OUT OF WEDLOCK.

"Are special measures necessary for the protection of children born out of wedlock, and if so, what measures?"

"1. That in the opinion of this Congress legislative measures and moral and social propaganda are necessary for the protection of illegitimate children.

"2. That the object of legislative action should be so to modify existing laws as to make the care, support and inheritance of illegitimate and legitimate children as near as possible identical.

"3. That, after the nursing period is over, the decision as to which parent shall have the future care of an illegitimate child should be based upon the child's best interests and its needs as a future citizen.

"4. That whichever parent has not the care of the child should contribute toward its support and education.

"5. That as illegitimacy is often the result of ignorance, it shall be the object of a moral propaganda:

"(a) To instruct young people in matters of sex and its relations to the life and welfare of the State.

"(b) To help build up a single standard applicable to men and women alike.

"6. That as girl-mothers often attempt abortion, abandonment of their child, or drift into prostitution, it shall be the object of a social propaganda to have connected with hospitals and all institutions where such girl-mothers may go for advice and care, a trained staff of workers whose duties shall be:

"(a) To instruct such girl-mothers in the care of herself in view of her child's needs before and after birth.

"(b) To secure from the child's father acknowledgement of paternity and the necessary financial provisions.

"(c) To act as friend to the mother and guardian or trustee for the child."

PROBATION.

"What is the effect upon criminality of the legal measures taken in different States in the form of probation or suspension of sentence, etc., to avoid the necessity of imprisonment, especially at the time of first conviction, taking account of the age, character, and antecedents of the person? And is it desirable that these similar laws should be extended?"

Resolved:

"1. That the effects of probation are beneficial when applied with due regard to the protection of the community, and to persons who may reasonably be expected to reform, without resorting to imprisonment; and when the probationers are placed for a reasonable length of time under the supervision of competent officers.

"2. That the effects of suspended sentence, without probationary oversight, are difficult, if not impossible, to ascertain.

"3. That it is desirable to introduce and extend laws providing for probation, and to provide, in each state or country, some central authority which will exercise general supervision over probation work.

"A. The essential principles on which the modern reformatory method is based are:

"1. That no person, no matter whatever his age or past record, should be assumed to be incapable of improvement.

"2. The conviction that it is in the interest of the public not merely to impose a sentence which is retributive and deterrent but also to make an earnest effort for the reformation of the criminal.

"3. That this reformation is most likely to be accomplished by religious and moral instruction, mental quickening, physical development, and such employment as would place the prisoner on a good industrial basis.

"4. That the reformatory system is incompatible with short sentences, and a relatively long period of reformatory treatment is more likely to be beneficial than repeated short terms of imprisonment under severer conditions.

"5. That reformatory treatment should be combined with a system of liberation on parole under suitable guardianship and supervision on the advice of a suitable board.

"B. It is strongly to be desired that a system of special treatment be adopted for adolescent criminals whether recidivists or not.

"C. Tribunals should be able to sentence to special treatment which (a) should be sufficiently long to permit of the full application of all possible means of reformation, (b) shall admit the right of conditional liberation as mentioned above for prisoners awaiting trial, and prisoners serving short sentences there should be separate confinement."

RELEASE ON PAROLE.

"Accepting the principle of conditional liberation on parole as an indispensable aid to the reformation of the prisoner the Congress approves of the following resolutions:

"1. Conditional release should be given not by favor but in accordance with definite rules. Prisoners of all classes, including workhouse prisoners, should be eligible for conditional release after serving for a definite minimum period.

"2. Conditional liberation should be given on the recommendation of a properly constituted board. but reserving always the control of the government. This board should have the power of recalling the prisoner in case of unsatisfactory conduct.

"3. The duty of caring for conditionally liberated prisoners should be undertaken by State agents, especially approved associations, or individuals who will undertake to befriend and supervise them, and to report on their conduct for a sufficiently long period.

"4. Where the ordinary rules for parole are not appli cable to life prisoners their cases should be delt with by the supreme government as a matter of clemency."

THE INDETERMINATE SENTENCE.

"The Congress approves of scientific principle of the indeterminate sentence.

'The indeterminate sentence should be applied to moral and mental defectives.

"The indeterminate sentence should also be applied as an important part of the reformatory system to criminals, particularly young delinquents, who require reformation and whose offenses are due mainly to circumstances of an individual character.

"The introduction of this system should be conditioned upon the following suppositions:

"1. That the prevailing notions of guilt and punishment are compatible with the principle of the indeterminate sentence.

"2. That an individual treatment of the offender be assured.

"3. That the 'Board of Parole' be so constituted as to avoid outside influences, and consist of a commission made up of at least one representative of the magistracy, at least one representative of the prison administration, and at least one representative of medical science.

"It is advisable to fix the maximum duration of the sentence only during such a period as it may be necessary, because of the novelty of the institution and lack of experience with it."

It was also resolved that the following propositions be comprised in an international code to be adopted by the next Congress:

"1. Incapacities pronounced in one country should be given effect in every other (non-political).

"2. Crimes and misdemeanors of which a person is guilty in one country should, as touching conditional liberation, be recognized with reference to establishing recidivism in every other country.

"3. A bureau should be created for international exchange of criminal sentences."

COMPLICITY IN CRIME.

"To resist the tendency of criminals to band themselves together, is it not desirable to make participation in criminal acts or agreements a distinct offense, or at least to make complicity an aggravating circumstance?

"1. It does not appear to be in conformity with the spirit of penal law to make of every preliminary agreement to break the law a special crime.

"2. Noting the increase of offenses for which several persons are responsible, and that these offenses are committed chiefly by habitual criminals, *i. e.,* those most dangerous to society, it is desirable to consider participation as an aggravating circumstance and to augment the power of the judge to increase the penalty for such offense."

How should local prisons, jails and lock-ups be constructed and organized, is a question for investigation.

S. H. BLITCH,
Surgeon Central Prison Hospital.

Ocala, Fla., Feb. 16th, 1911.

Hon. B. E. McLin,
Tallahassee, Fla.

Dear Sir:

I present herewith my annual report of the Medical Department of the Central Prison Hospital for the year 1910, without reference to statistics, which come within the province of the State Prison Physician.

During the year epidemic diseases were escaped, barring one case of varicella, contracted elsewhere, but which, owing to our isolation facilities, was confined to the one individual attacked.

The health of the inmates has been exceptionally good, with fewer cases of malarial attacks—our great disease enemy in Florida—than seems reasonable, scarcely a dozen for the entire year, all of which is attributed to the excellent sanitary methods, mode of heating and efficient sewerage.

All departments are kept clean, and each inmate is given every possible advantage of hygienic surroundings. The food is plain, but thoroughly nourishing, well prepared, and is sufficient for every requirement of health.

The premises are kept bare and no rubbish or filth allowed on them, which the writer believes tends greatly to prevent disease.

To the Superintendent, Capt. D. E. Purvis, is due more credit for the excellencies referred to than all other forces combined.

Eleven deaths during the year, four of which died of pulmonary tuberculosis, each having the disease in an advanced stage when received at hospital. Since the inception of this institution no case of tuberculosis has ever developed while convicts detained therein, but many restored by our sunlight and air methods.

Little as yet has been accomplished *cn re.* the diminution of the mortuary rate in subjects of tuberculosis outside of institutions, due to lack of control of them, but in institutions, particularly such as are constructed similar to our tuberculosis ward, a decided impression, if not complete control has been effected. Many of those sent to our hospital are from the recruit list, which, as I have before told you, was due to the rotten system of our jails.

Syphilis, the scourge and awful enemy of the negro race, is making rapid increase, the greater part of the subjects detained in hospital being syphilitics, and, aside from tuberculosis, almost every death in hospital is due to the remote effects of syphilis.

There was before the separation of the sexes, *i. e.*, leasing female prisoners with the male prisoners, a mutinous spirit and the enforcement of discipline next to impossible, absolutely hopeless of correction, as it appeared to all concerned; however, since your Board authorized separation in field and detention quarters there is no strife, no murmurings of discontent and discipline easy of enforcement.

A hospital is, properly speaking, a hotel for the accommodation of guests who need medical and surgical treatment, but ours, as you know, has associated with the above the feature of rest, sunlight, exercise in the open, gardening and farm work, stock and poultry raising, all of which in many subjects has a more salutary and recuperating effect than the administration of drugs.

S. H. BLITCH,
Surgeon, Central Prison Hospital.

Hon. B. E. McLin,
Commissioner of Agriculture,
Tallahassee, Fla.

Dear Sir:

I have the honor to submit to you in brief my work and inspection and general observation of State convicts and camps. Also county convicts and camps, for two years, ending December 31, 1910.

About two years ago it was thought best for the prison system of the State to divide the State into three districts. Since that time I have been in charge of the southern or Ocala district and the most of my work has been in the above named district. I have visited all camps regularly and have visited some of the camps as many as four times in a month, believing that frequent visits and supervision are beneficial and matters needing attention can be more quickly remedied. Closer contact is maintained with sub-lessees, prisoners, captains and guards and the intimacy thus established is an aid to betterment on all lines.

The general condition of the camps is entirely satisfactory. During the past year the health of the prisoners has been very good. I find that the captains or management in general are studying their prisoners and their ability to perform labor. It is rarely that a prisoner who is not well or unfit for labor suffers for want of attention, for medical attention is had as promptly as possible when necessary.

Much more care is given to vegetable gardens. Sub-lessees find it profitable and the prisoners are benefited by the change of food; good gardens giving them a varied diet. All food supplied is of a good quality, consisting of bacon, grits, rice, meal, flour, beans, peas, sweet and Irish potatoes and fresh meat regularly, pork and beef. The daily ration is ample and thoroughly cooked. As to clothing, underclothing, shoes, hats, etc., it is rarely that I find an insufficiency on this line. With very few exceptions I find the stockades clean and comfortable. Each prisoner is furnished with a modern iron bedstead and good mattress and pillows, with necessary sheets and pillowcases, night shirts, etc. All beds are provided with not less than two double blankets. Beds arranged in sleeping hall not closer than fifteen inches apart in rows with a four foot hallway between each row of beds, thus giving the prisoners ample room. All buildings are well ventilated and all the stockades are very comfortable and well kept. I desire to especially mention the improvements at the Central Convict Hospital near Ocala. In the last year the Florida Pine Company of Jacksonville, Florida, State lessees, have greatly enlarged the size of the building. We now have a modern institution with everything in first class condition and new furnishings of every kind. In fact, the hospital has been improved in all departments; new cooking implements, new dining room fixtures, new bedding of every description. The operating department, and dispensing room are properly equipped and ready for any demands that may be made within reason. Much credit is due the Florida Pine Company for this splendid building and equipment, also to Capt. D. W. Purvis, their Superintendent, for the splendid condition in which he keeps everything. I will add that the sick prisoners appreciate their surroundings and the kind treatment accorded them there.

As to county convicts and camps, the Legislature did a great act in 1909, in placing the county convicts under your care, for improvements are noted on all lines. There is nothing better than close supervision and we now have a number of modern county camps with but very little friction, except sometimes in county road camps where prison vans are used. I would here recommend that all counties working their prisoners on roads, build a modern stockade, to be known as County Headquarters' Camp, and work the prisoners from these stockades in prison vans. The sick prisoners would then have a place to go to and the woman labor could be utilized for laundry, patchwork, scrubbing and maintaining a good garden at each county stockade. I feel that something of this kind would be placing the county prison system on a higher plane.

At least 90 per cent of the State prisoners and a large number of county prisoners are worked in the manufacture of turpentine, and all camps, with a very few exceptions, are in the most remote places and their labor used where free labor is hard to get or control. In the last two years I have traveled in the prison work, railroad mileage twenty-six thousand miles, by steamboad approximately twelve hundred and fifty miles and by private conveyance between seven and eight thousand miles.

In conclusion, I desire to thank you sincerely for your courtesy and kindness and good advice. Assuring you that it has helped to lessen what at times has been an arduous duty and that it will be gratefully remembered by me, again thanking you, I am,

Very truly yours,
JOHN T. LEWIS,
Supervisor of Convicts.

Sneads, Fla., Jan. 2nd, 1911.

Hon. B. E. McLin,
Com. of Agriculture,
Tallahassee, Fla.

Dear Sir:

I have the honor and pleasure of submitting to you my general observation for the past eighteen months, or a little more, as State Supervisor of State and County Prisoners and Camps. I was duly appointed and commissioned to this work June 14th, 1910. At the time I entered the work I found the State divided into three districts, one known as the Western District, in charge of Hon. John Neel; the second, or Southern District, in charge of Hon. John T. Lewis; the third, or Eastern District, was placed in my charge. This district embraces the following counties: Calhoun, Columbia, Baker, Duval, Bradford, Alachua, Clay, and a part of Marion, Putnam, Orange, Volusia, Brevard, St. Johns, St. Lucie, West Palm Beach, and Dade. In this district we have 25 prison camps; 18 of these camps have permanent stockades built according to the plans and specifications adopted by the State. The most of them are supplied with water works, bath tubs, flush water closets, etc. This applies to both State and county prisons. Where they are worked in the turpentine business, and the Florida Pine Company the original lessees. In this same district we have 7 county road camps; these prisoners are under the supervision of the county commissioners from the counties worked from. The prisoners are usually housed in road vans and do not enjoy the porcelain lined bath tubs, flush water closets, etc. I wish to mention the improvement in the prison system in the past 18 months. I find all the sub-lessees or contractors showing a willing disposition to have their prisoners well cared for. I find them well fed, well clothed, and in case of sickness the best medical attention they can obtain. Find their commissiaries supplied with ample supplies of clothing, shoes, socks, etc., good, substantial food. Their sleeping cells furnished with good single iron bedsteads, mattresses, sheets, pillow cases, blankets, etc.. Their daily food consists of meal, flour, rice, grits, bacon, Irish potatoes, sweet potatoes, onions, peas, beans, coffee and sugar. They are furnished with fresh meats from once to twice a week, such as beef, pork, or fish; vegetables, such as cabbage, turnips, beans, etc., in season. The majority of the camps have good gardens, and where they have no gardens they buy vegetables for their prisoners. Eighteen months ago, in visiting the camps I found a number of young, incompetent guards on duty. Such is not the case now. I rarely ever visit a camp and find a guard under the age of 21. The majority of them are settled men. I have always striven to have competent guards and good discipline in my camps. I find the punishments in the camps gradually diminishing. Find the prisoners without complaints of any kind; find their stockades better cared for, prisoners seemingly satisfied and in good humor. The majority of the contractors gave their prisoners a good Thanksgiving dinner. and they all prepared them an excellent Christmas dinner: Menu consisted of beef, pork, chickens, turkeys, pies and custards of different kinds, cakes, fruits of all kinds, candies, nuts, cigars, etc. The prisoners not required to labor from two to three days. The prisoners often speak to me of the kind treatment shown them by the captains and guards. They appreciate this and are doing good work in return for it. I wish to mention that in each camp the food is well prepared. It has been my usual custom to visit each camp in my district at least once a month, therefore, I am kept on the road most of the time. I come in the latter part of the month, make out my reports, and go out again. It requires at least two thousand miles, or a little more, to cover my territory. This includes R. R. mileage, livery, etc. In my district I am meeting daily, gentlemen from different Northern States, and they seem very much interested in the prison system of our State. They express themselves very freely, and say this State has them all "skinned" on the prison system. In conclusion, I wish to thank you for the valuable suggestions and advice given me on this line of work. It has been of much benefit to me on the line of my duties. Since I have been connected with the work, have always found the contractors, captains or wardens nice, clever gentlemen, always ready to listen to any suggestions for the betterment of their prisoners and camps. I have tried to discharge my duties to the best of my ability, and if I have made any mistakes it has been an error of the head and not of the heart. Again thanking you, I am,

Very truly yours,

J. D. FERRELL, Supervisor.

Westville, Fla., January 25, 1911.

Hon. B. E. McLin,
Tallahassee, Fla.

Dear Sir:

Replying to yours of the 17th will say that the territory that I have worked since the new lease went into effect January 1st, 1910, includes the counties of Taylor and Lafayette and all counties west of these. In this territory there are twelve State and fifteen County camps. State camps located as follows: One in Lafayette, four in Taylor, one in Calhoun, two in Washington, two in Walton, two in Santa Rosa. Of the fifteen County camps six are road camps located: three in Escambia, one in Santa Rosa, one in Washington, one in Gadsden. The other nine County camps are leased prisoners and the prisoners are working turpentine in the following counties: One in Walton, one in Leon, one in Wakulla and six in Taylor County. In visiting these camps once every thirty days for twelve months I have traveled 15,000 miles by roalroad, 500 miles by boat and 8,500 miles by private conveyance. There has been but little trouble and but very few complaints among the prisoners at all these camps both State and County during the past year. The lessees have always seemed willing to comply with the rules and requirements under the new lease which is a great improvement over the old one. The old prisoners who served under the old plan some years back, when they were all chained together at night and slept on a hard bunk with but little cover with the same clothes on that they had worked in during the day, tell the new prisoners about the great improvements that they now have where each prisoner has a good iron bedstead, good mattress, clean sheets, blankets and pillows, also good clothing, warm underclothing, socks, shoes, etc. When they compare this great improvement with the old plan they appreciate it and try to do good work and are obedient and trusty. To add to this they are given holidays with extra good dinners on the Fourth of July, Thanksgiving and Christmas with fruit, candy, nuts and many other things. On last Christmas several of the camps gave their prisoners Friday and Saturday before Christmas as an additional holiday. In all the State camps they work under task system and finish their task, many of them getting through by Friday noon, none later than Saturday noon. All this tends to make them better satisfied, consequently we have but few complaints. I believe we have the best prison system and that our prisoners are now being better treated than any other State in the South.

Respectfully,

JOHN NEEL,

Supervisor.

GUARDS FOR STATE PRISONERS.

All applicants to guard State prisoners are required to make application, under oath, on a form, a copy of which is given below, which form first goes to the headquarters office, then to a Supervisor, whose duty it is to pass on same and refer it to this Department, where the name of the guard and place of employment is recorded, if no evidence is found on our records showing the applicant to have been previously discharged for cause.

FORM OF APPLICATION.

APPLICATION FOR EMPLOYMENT AS GUARD OF STATE PRISONERS.

...., Fla., ...190..

STATE OF FLORIDA,

...................County.

I, (name of applicant)............................, of

....................County, in the State of Florida, do hereby apply to (name of employer).................... for employment as a Guard of State Prisoners under the provisions of the laws of Florida, and do hereby state and represent in this behalf, that I am qualified to fill such position; that I have no relative or friend in the State prison, or other person that I am interested in the release of from the State prison; that I have guarded State prisoners for the following named lessees:

....

.... Under No......

to whom reference is made for my service and personal conduct; that I am familiar with the law, rules and regulations enacted and prescribed by the management of State prisoners and for the conduct, powers and duties of guards, and if employed will observe them.

....

Applicant for Employment as Guard.

STATE OF FLORIDA,

....................County.

I, ...
do solemnly swear that I will support and defend the Constitution and Government of the United States and the State of Florida; that I am duly qualified to act as Guard of State Prisoners; that the statements and representations made in my application for employment are true; that I will observe the law, rules and regulations enacted and prescribed for the management and control of State prisoners and conduct of guards, and will well and faith-

fully perform the duties of guard of State prisoners on which I am now about to enter, so help me God.

Sworn to and subscribed before me this .... day of

.............................., A. D. 190....

....

....

(Witnessing Officer.)

EMPLOYER'S REMARKS.

The Honorable Commissioner of Agriculture,
Tallahassee, Fla.

Dear Sir:

I hereby certify, on honor, that to the best of my belief and knowledge, all of the foregoing statements are correct; that I have personally questioned the said .... in regard to former employment, etc., and can find nothing in his past record that would debar him from fulfilling the duties of a guard; that I have examined him on each and every rule and regulation for the guidance of manager of State prisoners, and that he is familiar with each and all of them.

....

....

(Employer or Captain to fill in.)

(Signed.) ....

RULES AND REGULATIONS.

The following rules and regulations are required to be kept posted inside of each prison barracks, in a conspicuous place, where the prisoners may read it at will, and also on the outside of the barracks for general inspection and information.

These rules are formulated by the Commisisoner of Agriculture, after having been approved by the Board of Commisisoners of State Institutions, and are as follows:

RULES AND REGULATIONS.

In Regard to the Care and Maintenance of State Convicts By Contractors.

No. 1. Contractors shall require each and every convict to wear at all times the uniform of the Florida State Prison, which shall be the same that is now used.

No. 2. The contractors shall keep for each prisoner two suits of clothes, one hat and one pair of shoes, all the time; shall cause each convict to bathe all over once a week and put on clean clothes, and during the winter they must be furnished a sufficient amount of underclothing to insure protection from cold.

No. 3. The contractors must have good and comfortable quarters for convicts, and shall have separate rooms for eating and sleeping, have them swept out thoroughly every morning. The floor of the dining room must be scrubbed once a week, and sleeping room as often as necessary. The contractors shall furnish for each convict a good mattress and such other bedding as is necessary, and the same must be kept clean.

No. 4. The convicts must be furnished good and wholesome food in sufficient quantity, thoroughly and well cooked. A daily record shall be kept of all supplies issued to convicts, and at the end of each month a certified copy of the same shall be furnished the Supervisor of Convicts and Convict Camps.

No. 5. The contractors shall report to the Supervisor at the end of each month the name of each convict punished during the month, and the kind and amount of punishment inflicted.

No. 6. Contractors shall furnish all the medicine and medical attention necessary for the proper care of convicts; shall furnish a building to be used as a hospital, and when a convict becomes sick enough to need medical attention he must be kept in the hospital until discharged by the attending physician. Each sick convict shall be furnished a single bed with springs, mattress, pillow, etc., also net to keep flies away, and such food as the physician shall prescribe.

No. 7. If a convict dies, the contractor shall furnish the Supervisor, and also the Superintendent of headquarters camp, a certificate from the attending physician as to the cause of death. If the convict dies without the attention of a physician, an inquest must be held and a copy of the verdict must be furnished without delay to Headquarters Camp, and they to the Commissioner of Agriculture.

No. 8. No cruel or inhuman treatment shall be inflicted on the prisoners, but the contractors shall have the power to administer punishment to convicts for disobedience. Monthly reports must be sent the Superintendent and he to the Commissioner of Agriculture of the person punished, cause of punishment and kind of punishment. If corporal, the number of lashes.

No. 9. The contractors shall designate the person who is to administer punishment to the convicts. The name of said person for each camp must be reported to Headquarters Camp, and they to the Supervisors and Commissioner of Agriculture, and no one else shall correct or punish prisoners but the one so designated. No guard shall curse, strike, or in any way abuse a prisoner.

No. 10. No person shall be allowed in the camp or stockade while under the influence of intoxicating liquors. No intoxicating liquors shall be allowed in the camp. No guard, captain of guards, foreman, or any one in any way connected with the management of convicts shall be allowed to indulge in the use of intoxicants while on duty or in camps. Contractors must discharge any employee violating this rule, and notify the Headquarters Camp and they the Supervisor of such discharges, and he, the Commissioner of Agriculture.

No. 11. The guards shall not permit anyone to converse with a prisoner who is not in some way connected with the State Prison without the consent or permission of the proper authority.

No. 12. Contractors shall not permit any convict, whether a "trusty" or not, to go away from the stockade unless accompanied by a guard or guards, and at all times when at work of any kind guards must be near enough to the convicts to prevent them from committing any act of violence.

No. 13. Convicts working in mines must not be so shackled or hobbled that they cannot move quickly to a safe distance from falling banks, neither shall they be required to handle or load hot rocks on cars.

No. 14. All "trusty" convicts must be kept under guard after 8 o'clock at night on the account of Rule 12.

No. 15. Convicts shall not be allowed to work on Sundays, nor before sunrise or after sunset, except as regular cooks and yard hands in their usual care of the camp.

No. 16. In every instance where the Supervisor has sufficient evidence to show any one of these rules has been violated it shall be his duty to at once report same to the Commissioner of Agriculture.

No. 17. Prisoners, Superintendents, Guards, Captains of Guards, nor any other person, shall be allowed to gamble with cards, or other device for money, or thing of value, in, at or about the cells, barracks or convict camps. For a violation of this rule, prisoners shall be punished, Superintendents, Guards, Captain of Guards or other employees shall be discharged from service.

No. 19. From the 15th day of June to the 16th day of September, Contractors shall allow the convicts not less than one hour and a half at noon to rest from labor and eat their midday meal.

No. 19. No convict shall be exchanged for another, or removed from one camp to another without notice first being given to the Supervisor and also to the Superintendent of Headquarters Camp.

No. 20. The Supervisor shall have power to remove, for cause, any Superintendent, Guard or Captain of Guards, the Supervisor reporting his action in such cases without delay to the Commissioner of Agriculture for his approval or disapproval.

No. 21. No Contractor shall remove a Superintendent or Captain of Guards approved by the Supervisor, without first obtaining his consent, except in cases of emergency, when conduct would demand immediate action, and then notice prompt by wire or first mail shall be given the Supervisor, that he may investigate and approve or disapprove such removal, and he shall promptly report to the Commissioner of Agriculture.

No. 22. The person in charge of Headquarters Camp shall promptly notify the Commissioner of Agriculture and supervisor of any transfer of prisoners from one camp to another.

No. 23. It shall be the duty of the Supervisor to see that the above rules are faithfully observed and enforced, and a failure on the part of any Commissioner, Superintendent or Captain of Guards to observe and enforce these rules shall be reported by the Supervisor to the Commissioner of Agriculture with all the facts connected therewith, and of all irregularities he may discover.

No. 24. All subsequent rules made by the Supervisor and approved by the Commissioner of Agriculture must be obeyed, but in cases when they appear unreasonable. the Contractor or Contractors may appeal to the Board of Commissioners of State Institutions.

No. 25. It shall be the duty of all Contractors and those authorized to employ guards, to require each guard so employed to subscribe to an oath of office for the faithful performance of duty and proper conduct while acting as such guard, which oath shall be forwarded to the Commissioner of Agriculture.

No. 26. Contractors shall report without delay to the Commissioner of Agriculture, Supervisor, and to the Superintendent of Headquarters Camp, the name and number of any State convict who may escape from their respective camps, custody or control, and shall give the Supervisor full information as to when and how the escape was affected.

No. 27. These Rules must be kept posted inside of Barrack building and on outside in a conspicuous place.

Approved in open meeting of the Board.

B. E. McLIN,
Commissioner of Agriculture.

TABLE NO. 1.—1909.

Prisoners on hand January 1st, 1909	1,232	
Prisoners committed during year	438	
Prisoners discharged by expiration of sentence		280
Prisoners died during year		14
Prisoners committed to asylum during year		4
Prisoners returned from asylum during year	2	
Prisoners escaped during year		67
Prisoners recaptured during year	33	
Prisoners paroled during year		1
Prisoners granted conditional pardons during year		38
Prisoners on hand December 31st, 1909		1,301
Number of prisoners handled during year 1909	1,705	1,705

TABLE NO. 2.

Nationality, Sex and Color of Prisoners Committed During Year 1909.

Georgia	108
South Carolina	41
West Indies	4
Unknown	3
Florida	186
North Carolina	15
Virginia	11
Denmark	1
Massachusetts	5
Tennessee	4

Mississippi	2
Canada	1
Indiana	2
Alabama	27
Italy	4
Cuba	2
Louisiana	3
Pennsylvania	2
Jamaica	6
Delaware	1
New York	1
New Jersey	2
Nebraska	1
Spain	1
Nova Scotia	2
Ohio	1
Kentucky	2
Total	438

Natives	418
Foreigners	20
Total	438

White Females	..
White Males	64
Colored Females	21
Colored Males	353
Total	438

TABLE NO. 3.

Crimes for Which Sentenced During Year 1909.

Bigamy	4
Grand larceny	47
Larceny and receiving stolen goods	18

Murder in first degree	19
Larceny	12
Assault to murder	56
Murder in second degree	33
Manslaughter	34
Forgery and uttering a forged instrument	14
Shooting into a dwelling house	3
Breaking with intent to commit a felony	26
Breaking and entering	48
Receiving stolen goods	2
Assault with intent to rape	9
Breaking and entering with intent to commit a misdemeanor	37
Carnal intercourse with unmarried female under age of 18 years	6
Larceny of a cow	8
Larceny of a hog	3
Crime against nature	2
Receiving stolen property	1
Embezzlement	1
Larceny of stear	1
Forgery	4
Rape	3
Aiding prisoners to escape from jail	1
Larceny of a horse	4
Larceny of a mule	1
Robbery	2
Adultery	4
Assault to commit manslaughter	1
Perjury	4
Arson	3
Second larceny	2
Obtaining money under false pretense	4
Larceny and second larceny	2
Burglary	4
Embezzlement	2
Incest	1

Fraudulently marking animals	5
Obstructing a railroad track	2
Bribery	2
Resisting an officer	2
Falsely personating another	1
Total	438

TABLE NO. 4.

Term of Imprisonment of Prisoners Committed During Year 1909.

Four years	16
Five years	68
Life	44
Two and one-half years	1
Two years	91
Six years	2
One year	70
Three years	42
Six months	13
Seven years	9
Ten years	22
Three months	1
One and one-half years	12
Fourteen years	1
Nine months	2
Twenty years	5
Fifteen years	2
Three years and six months	1
Seven months	2
Five months	1
Eight years four days	3
One year fifteen days	2
Four years ten days	1

Eighteen years ten days	2
Ten years thirty days	1
Eight years	1
Two months	1
One year one month	1
One year two months	1
Ten months	1
Eleven years	1
Eight months	1
One year eight months 19 days	1
Four years three months 12 days	2
Two years six months nine days	4
Seventeen years one month 13 days	2
Two years six months 28 days	1
Two years six months 11 days	2
Ten months 10 days	1
One year 11 months 26 days	1
Eight months 20 days	1
One year one month	1
One year eight months 18 days	1
Total	438

TABLE NO. 5.

Age of Prisoners Committed During Year 1909.

Ten	1
Twelve	1
Thirteen	2
Fourteen	2
Fifteen	5
Sixteen	13
Seventeen	17
Eighteen	16
Nineteen	27

Twenty	14
Twenty-one	28
Twenty-two	16
Twenty-three	34
Twenty-four	22
Twenty-five	26
Twenty-six	16
Twenty-seven	17
Twenty-eight	12
Twenty-nine	14
Thirty	23
Thirty-one	8
Thirty-two	9
Thirty-three	9
Thirty-four	7
Thirty-five	8
Thirty-six	8
Thirty-seven	4
Thirty-eight	10
Thirty-nine	8
Forty	11
Forty-one	1
Forty-two	6
Forty-three	4
Forty-four	3
Forty-five	5
Forty-six	4
Forty-seven	3
Forty-eight	3
Forty-nine	4
Fifty	2
Fifty-one	1
Fifty-two	1
Fifty-six	2
Fifty-seven	2
Fifty-nine.	1
Sixty-two	2

Sixty-four	1
Sixty-six	1
Sixty-seven	1
Seventy-five	2
Seventy-six	1
Total	438

TABLE NO. 6.

Prisoners Received by Counties During Year 1909.

Alachua	30
Baker	..
Bradford	1
Brevard	6
Calhoun	3
Clay	7
Citrus	11
Columbia	10
Dade	10
DeSoto	7
Duval	75
Escambia	18
Franklin	4
Gadsden	17
Hamilton	2
Hernando	3
Hillsborough	25
Holmes	1
Jackson	8
Jefferson	2
Lafayette	2
Lake	8
Lee	1
Levy	10

Leon	8
Liberty	3
Madison	2
Manatee	4
Marion	11
Monroe	4
Nassau	5
Orange	5
Osceola	5
Pasco	7
Polk	10
Putnam	13
Palm Beach	..
Santa Rosa	2
St. Johns	23
St. Lucie	2
Sumter	2
Suwannee	9
Taylor	5
Volusia	13
Wakulla	6
Walton	13
Washington	3
Total	415

TABLE NO. 7.—PRISONERS PARDONED DURING YEAR 1909.

Name.	Color.	Crime.	Term.	Sentenced.		Date of Pardon.
				When.	County Where.	
William Jones	Black.	Murder	Life	July 5, 1895.	Duval	Jan. 1, 1909.
Thomas Milton	Black.	Murder	Life	May 26, 1898.	Hillsboro	Jan. 1, 1909.
John Ashwood	Black.	Murder	Life	Oct. 23, 1901.	Marion	Jan. 1, 1909.
Andy Harmon	Black.	Assault to murder	5 Yrs. 60 days	Dec. 22, 1904.	Washington	Jan. 1, 1909.
Steve Beaty	Black.	Assault to murder	5 Years	Mar. 28, 1905.	Hamilton	Jan. 1, 1909.
John Fisher	Black.	Rape	Life	Nov. 26, 1905.	Volusia	Jan. 1, 1909.
J. D. Sims	White.	Embezzlement	2 Years	Aug. 28, 1907	Pasco	Jan. 1, 1909.
Leonard Hewett	Black.	Robbery from person	5 Years	Dec. 12, 1905	Hillsboro	Jan. 1, 1909.
Jno. L. Chanlder, Jr.	White.	Larceny of a horse	2 Years	May 6, 1908.	Volusia	Jan. 1, 1909.
Jane Ormond	Black.	Murder	Life	Nov. 18, 1907	St. Johns	Jan. 1, 1909.
Simon Sykes	Black.	Murder	Life	Apr. 29, 1908.	Taylor	Jan. 1, 1909.
Alex Campwell	White.	Murder	Life	Aug. 10, 1891.	Duval	Jan. 4, 1909.
David London	Black.	Second larceny	15 Years	Apr. 28, 1899	Duval	Mar. 4, 1909.
Leon Hewett	Black.	Murder	Life	July 9, 1900.	Duval	Mar. 4, 1909.
Charles Holmes	Black.	Larceny 2nd larceny	3 Years	Sept. 10, 1906	Duval	Mar. 4, 1909.
Sylvester Waters	White.	Larceny	1 Year	Oct. 25, 1908.	Polk	May 11, 1909.
James Ford	Black.	Manslaughter	20 Years	Mar. 30, 1903	Orange	May 21, 1909.
Edward Alverez	White.	Murder	Life	Apr. 9, 1899.	Bradford	July 1, 1909.
Lum Davis	Black.	Second larceny	18 Years	Aug. 3, 1899	Duval	July 1, 1909.
Jacob Blue	Black.	Murder	Life	Feb. 6, 1897.	Hamilton	July 1, 1909.
James Moody	Black.	Murder	Life	Sept. 4, 1894	Hamilton	July 29, 1909.
Charlie Riggs	Black.	Assault to murder	2 Years	May 19, 1908.	Walton	July 29, 1909.
Willie Pope	Black.	Assault to murder	3 Years	Mar. 21, 1908	Levy	July 29, 1909.
Quillian White	White.	Forgery and uttering a forged instrument	1 Yr. 6 months	May 12, 1908.	Marion	Aug. 9, 1909.

TABLE NO. 7.—PRISONERS PARDONED DURING YEAR 1909.—*Continued.*

Name.	Color.	Crime.	Term.	Sentenced.		Date of Pardon.
				When.	Where. County	
Gus Walker	Black.	Murder	Life	Dec. 10, 1894.	Columbia	Oct. 7, 1909.
James Galvin	Black.	Murder	Life	Dec. 5, 1897.	Jackson	Oct. 7, 1909.
Josephine Player..	White.	Manslaughter	15 Years	Dec. 10, 1904.	Jackson	Oct. 7, 1909.
Daniel Harney ...	Black.	Rape	Life	Feb. 12, 1908.	Jackson	Oct. 7, 1909.
Ben Moore	Black.	Murder	Life	Dec. 22, 1898.	Dade	Nov. 5, 1909.
Ike Wood	Black.	Murder	Life	May 15, 1900.	Gadsden	Nov. 5, 1909.
Robert Burns	Black.	Breaking and entering ...	20 Years	Mar. 6, 1901.	Sumter	Nov. 5, 1909.
Lennel Joshua	Black.	Grand larceny	7 Yrs. 6 days	May 2, 1905.	Duval	Nov. 5, 1909.
George Mitchell ..	Black.	Assault to murder	10 Years	Oct. 24, 1902.	Pasco	Nov. 5, 1909.
John O. Den......	Black.	Breaking and entering and assault to murder	7 Years	June 5, 1906.	Escambia	Nov. 5, 1909.
Chas. Muckenfuss.	White.	Breaking and entering to commit a felony	2 Years	May 21, 1908.	Walton	Nov. 5, 1909.
Zeleina McGirt....	Black.	Murder	Life	May 16, 1895.	Pasco	Dec. 2, 1909.
Gordon Johnson...	White.	Murder	Life	Oct. 17, 1908.	Baker	Dec. 2, 1909.
Bruce E. Norman..	White.	Forgery and uttering a forged instrument	2 Years	May 12, 1908.	Marion	Dec. 15, 1909.

TABLE NO. 8.— PRISONERS ESCAPED DURING YEAR 1909.

Name.	Color.	Crime.	Term.	Sentenced.		Date Escaped.
				When.	County Where.	
Will Thomas	Black.	Breaking and entering...	1 Year	Dec. 14, 1908.	Leon	Jan. 30, 1909.
Ethel Jackson	Black.	Murder	Life	Oct. 21, 1907.	Dade	Feb. 10, 1909.
Sam Brown	Black.	Murder	Life	June 9, 1902.	Dade	Feb. 10, 1909.
Joe Bailey	Black.	Grand larceny	9 Months....	Aug. 26, 1908.	Duval	Feb. 14, 1909.
J. S. Wester......	Black.	Forgery	3 Years	Dec. 18, 1906.	Marion	Feb. 21, 1909.
Bud Jeter	Black.	Breaking and entering ...	3 Years	May 19, 1908.	Walton	Feb. 27, 1909.
W. F. Cody.......	Black.	Manslaughter	5 Years	Mar. 2, 1908.	Hillsboro	Mar. 1, 1909.
William Deigman..	White.	Breaking and entering...	2 Years	Feb. 4, 1909.	Suwannee ...	Apr. 5, 1909.
Ed Brinkley	Black.	Murder	Life	Dec. 1, 1906.	Orange	Apr. 7, 1909.
Hester Stone......	Black.	Murder	Life	Apr. 9, 1909.	Walton	Apr. 29, 1909.
Ed Evans	Black.	Adultery	2 Years	Apr. 6, 1908.	Brevard	Apr. 29, 1909.
John Blair	Black.	Assault to murder	3 Years	Mar. 3, 1909.	Duval	May 11, 1909.
Wm. Means	Black.	Murder	Life	July 11, 1908.	Dade	May 11, 1909.
Fred Kelley	White.	Receiving stolen goods...	5 Years	Feb. 16, 1909.	Hillsboro	May 11, 1909.
J. J. Boyle	White.	Grand larceny	1 Year	Mar. 22, 1909.	Hillsboro	May 11, 1909.
Hilliard Crawford.	Black.	Murder	Life	Sept. 1, 1907.	Hamilton	May 20, 1909.
Jim Smith	Black.	Assault to murder	5 Years	May 3, 1909.	Columbia	May 18, 1909.
Alfred Gonzalez ..	Black.	Breaking and entering ...	1 Year	Mar. 9, 1909.	Dade	May 24, 1909.
Hezekiah Thomas.	Black.	Grand larceny	2 Years	Feb. 18, 1909.	Duval	May 29, 1909.
James Williams...	Black.	Assault to murder	10 Years	Apr. 7, 1906.	Brevard	June 2, 1909.
Calhoun Gatlin ...	White.	Second larceny	[illegible] Years	Apr. 19, 1909.	Putnam	June 23, 1909.
Ben Thomas......	Black.	Breaking and entering...	5 Years	Apr. 18, 1909.	Gadsden	June 28, 1909.
Sam Castleberry..	Black.	Assault to murder	40 Years	Nov. 25, 1898.	Escambia	July 8, 1909.
Bob Sallage	Black.	Burglary under arms....	Life	Apr. 21, 1908.	Orange	July 9, 1909.

TABLE NO. 8.—PRISONERS ESCAPED DURING YEAR 1909.—*Continued.*

Name.	Color.	Crime.	Term.	Sentenced. When.	Sentenced. County Where.	Date. Escaped.
John Callahan	Black.	Burglary	5 Years	July 1, 1908.	Hillsboro	July 9, 1909.
Simon Green	Black.	Assault to commit manslaughter	2 Years	Nov. 21, 1907.	Wakulla	July 13, 1909.
Robert Badger	Black.	Larceny	5 Years	Oct. 28, 1905.	Duval	July 24, 1909.
Walter H. Geiger	White.	Obtaining property by false pretense	5 Years	Dec. 16, 1908.	Hillsboro	Aug. 9, 1909.
Charles R. Vance	White.	Grand larceny	3 Years	Sept. 21, 1908	Duval	Aug. 9, 1909.
Geo. Washington	Black.	Murder	Life	Nov. 8, 1908.	Brevard	Aug. 10, 1909.
Mary Young	Black.	Grand larceny	2 Years	Dec. 9, 1908.	Marion	Aug. 18, 1909.
R. L. Johnson	Black.	Breaking and entering	3 Years	May 19, 1908.	Walton	Aug. 19, 1909.
Baby Mickel	Black.	Assault to murder	5 Years	Apr. 17, 1909.	Pasco	Aug. 19, 1909.
Will Thomas	Black.	Breaking and entering	1 Yr. 15 days	Feb. 24, 1908.	Escambia	Aug. 26, 1909.
Henry Bennett	Black.	Breaking and entering	2 Years	May 28, 1909.	Marion	Aug. 23, 1909.
Jim Williams	Black.	Burglary	5 Years	Oct. 25, 1908.	Hillsboro	Sept. 5, 1909.
D. Howard	Black.	Assault to murder	10 Years	Oct. 25, 1908.	Polk	Sept. 5, 1909.
Robert Cook	Black.	Rape	Life	Dec. 12, 1905.	Alachua	Sept. 5, 1909.
Ed Brown	Black.	Grand larceny	5 Years	Mar. 12, 1908.	Hillsboro	Sept. 11, 1909.
Jim Williams	Black.	Assault to murder	10 Years	Feb. 26, 1909.	Hillsboro	Sept. 26, 1909.
John Aiken	Black.	Burglary	20 Years	May 23, 1906.	Hillsboro	Sept. 30, 1909.
W. M. Thomas	Black.	Rape	Life	Feb. 23, 1900.	Alachua	Oct. 3, 1909.
Henry Jones	Black.	Assault to murder	20 Years	Oct. 19, 1902.	Polk	Oct. 8, 1909.
Ed Evans	Black.	Adultery	2 Years	Apr. 6, 1908.	Brevard	Oct. 8, 1909.
Peter Tolbert	Black.	Grand larceny	2 Years	Nov. 14, 1908.	Citrus	Oct. 11, 1909.
John Augusta	Black.	Breaking and entering	5 Years	Dec. 8, 1900.	Brevard	Oct. 19, 1909.

U. Melbourne	White.	Grand larceny	13 Years	May 23, 1908.	Monroe	Oct. 20, 1909.
Ed King	Black.	Assault to murder	18 Yrs.10 days	Feb. 24, 1909.	Escambia	Oct. 22, 1909.
Thomas Holmes	Black.	Murder	Life	Oct. 15, 1909.	Calhoun	Oct. 26, 1909.
Jim Harris	Black.	Breaking and entering	5 Years	Apr. 18, 1909.	Gadsden	Oct. 29, 1909.
Joseph Williams	Black.	Breaking and entering	5 Years	Oct. 14, 1905.	Volusia	Nov 24, 1909.
Rosa Fuller	Black.	Assault to murder	5 Years	May 3, 1909.	Columbia	Dec. 25, 1909.
Robert Moss	Black.	Murder	Life	Oct. 1, 1905.	Levy	Dec. 2, 1909.
Arthur Wood	White.	Grand larceny	5 Years	Apr. 17, 1909.	Pasco	Dec. 22, 1909.
T. P. Davis	Black.	Larceny of a horse	5 Years	Apr. 11, 1909.	Hillsboro	Dec. 22, 1909.
George Stokes	Black.	Murder	Life	Nov. 30, 1908.	Lafayette	Dec. 22, 1909.
Harry Owens	Black.	Assault to murder	7 Years	Mar. 6, 1907.	Escambia	Dec. 22, 1909.
Charles Davis	Black.	Grand larceny	5 Years	July 1, 1907.	Duval	Dec. 22, 1909.
Jesse Ross	Black.	Murder	Life	Nov. 29, 1908.	Alachua	Dec. 22, 1909.
William Bailey	Black.	Breaking and entering	1 Year	Aug. 31, 1909.	Duval	Dec. 22, 1909.
Ed Stewart	Black.	Assault to murder	12 Years	Apr. 18, 1908.	Clay	Dec. 22, 1909.
John Wilson	Black.	Burglary	15 Years	Oct. 19, 1908.	Volusia	Dec. 3, 1909.
Elijah Miller	Black.	Breaking and entering	2 Years	Feb. 4, 1909.	Hamilton	Dec. 10, 1909.
Fack Enterkin	White.	Incest	13 Yrs. 1 day	Oct. 15, 1909.	Escambia	Dec. 8, 1909.
A. W. Warneck	White.	Breaking and entering	1 Year	Apr. 22, 1909.	Nassau	Dec. 22, 1909.
Geo. Washington	Black.	Murder	Life	Nov. 8. 1908.	Brevard	Dec. 27, 1909.

TABLE NO. 9—RECAPTURES DURING YEAR 1909.

Name.	Color.	Crime.	Term.	Sentenced.		Recaptured, When
				When.	County Where.	
Charles Davis	Black.	Grand larceny 2nd larceny	5 Years	July 1, 1907.	Duval	Jan. 14, 1909.
Will Thomas	Black.	Breaking and entering	1 Year.	Dec. 14, 1908.	Leon	Feb. 3, 1909.
Ed. Wright	Black.	Assault to murder	5 Years	Apr. 28, 1906.	St. Johns	Jan. 19, 1909.
Ed Evans	Black.	Adultery	2 Years	Apr. 6, 1908.	Brevard	Jan. 16, 1909.
James J. Corbett	Black.	Burglary	5 Years	Mar. 11, 1906.	Hillsboro	Jan. 21, 1909.
R. L. Johnson	Black.	Breaking and entering	3 Years	May 19, 1908.	Walton	Mar. 3, 1909.
W. F. Cody	Black.	Manslaughter	5 Years.	Mar. 2, 1908.	Hillsboro	Mar. 29, 1909.
George Sallett	Black.	Breaking and entering	18 Years	July 7, 1899.	Duval	Mar. 29, 1909.
William Deigman.	White.	Breaking and entering	2 Years	Feb. 4, 1909.	Suwannee	Apr. 7, 1909.
Ed. Brinkley	Black.	Murder	Life	Dec. 1, 1906.	Orange	Apr. 13, 1909.
John Blair	Black.	Assault to murder	3 Years	Mar. 3, 1909.	Duval	May 11, 1909.
Hilliard Crawford.	Black.	Murder	Life	Sept. 1, 1907.	Hamilton	May 21, 1909.
Alfred Gonzalez	Black.	Breaking and entering	1 Year	Mar. 7, 1909.	Duval	May 26, 1909.
Jones Williams	Black.	Assault to murder	10 Years	Apr. 7, 1906.	Brevard	June 2, 1909.
John Williams	Black.	Murder	Life	Oct. 1, 1907.	Pasco	July 1, 1909.
Doctor Franc	Black.	Adultery	2 Years	Apr. 12, 1909.	Brevard	July 14, 1909.
Ed. Evans	Black.	Adultery	2 Years	Apr. 6, 1908.	Brevard	July 8, 1909.
Hester Stone	Black.	Murder	Life	Apr. 9, 1909.	Walton	July 8, 1909.
John Callahan	Black.	Burglary	5 Years	July 1, 1908.	Hillsboro	July 23, 1909.
Sam Castleberry	Black.	Assault to murder	40 Years	Nov. 25, 1898.	Escambia	July 24, 1909.
Bob Sallage	Black.	Burglary under arms	Life	Apr. 21, 1908.	Orange	July 28, 1909.
Hezakiah Thomas	Black.	Grand larceny	2 Years	Feb. 18, 1909.	Duval	Aug. 8, 1909.
W. H. Geiger	White.	Obtaining property by false entry	5 Years	Dec. 16, 1908.	Hillsboro	Aug 13, 1909.
Geo. Washington	Black.	Murder	Life	Nov. 8, 1908.	Brevard	Aug. 11, 1909.

Mary Young	Black.	Grand larceny	2 Years	Dec. 9, 1908.	Marion	Aug. 18, 1909.
Harry Owens	Black.	Assault to murder	7 Years	Mar. 6, 1907.	Escambia	Aug. 1, 1909.
D. Howard	Black.	Assault to murder	10 Years	Oct. 25, 1908.	Polk	Sept. 6, 1909.
Jim Williams	Black.	Assault to murder	10 Years	Feb. 26, 1909.	Hillsboro	Sept. 28, 1909.
Lewis Owens	Black.	Robbery	5 Years	Mar. 3, 1903.	Dade	Sept. 29, 1909.
Henry Bennett ...	Black.	Breaking and entering...	2 Years	May 28, 1909.	Marion	Oct. 2, 1909.
John Augusta	Black.	Breaking and entering...	5 Years	Dec. 8, 1900.	Brevard	Oct. 23. 1909.
Peter Tolbert	Black.	Grand larceny	2 Years	Nov. 14, 1908.	Citrus	Oct. 19, 1909.
Ben Thomas	Black.	Breaking and entering...	5 Years	Apr. 18, 1909.	Gadsden	Nov. 1, 1909.
Fack Enterkin ...	White.	Incest	18 Yrs. 10 days	Oct. 15, 1909.	Escambia	Dec. 10, 1909.

TABLE NO. 10—PRISONERS DIED DURING YEAR 1909.

Name	A.	C.	Crime.	Sentenced		County.	Died. 1909.	Disease or Cause.
				Term.	When.			
Henry Wright	56	B.	Murder	Life.....	Feb. 6, 1908.	Escambia..	Jan. 9	Brights disease.
Dan Coldwell	26	B.	Forgery	9 Years.	Oct. 5, 1908.	Dade......	Apr. 30	Tuberculosis.
James Wilson	34	B.	Murder, 3 deg.	11 Years.	Dec. 7, 1908.	Jackson....	May 20	Shot while escaping.
Reuben Powell	40	B.	Asst. to Murder	10 Y.30 D.	Feb. 3, 1909.	Escambia..	July 12	Brights disease.
William Bollans ...	25	B.	Manslaughter	8 Years.	Jan. 16, 1909.	Jackson....	Aug. 31	Shot while escaping.
Will Jones	—	B.	Murder	Life.....	Feb. 24, 1909.	Duval......	Sept. 8	Organic heart trouble.
Will Jones	27	B.	Asst. to Rape.	20 Years.	Nov. 18, 1907.	St. Johns...	Oct. 12	Heart failure.
Will Thomas	36	B.	Bkg. & Ent'g	1 Year..	Dec. 14, 1908.	Leon.......	Oct. 13	Shot while escaping.
Joe Spiers	35	B.	Larceny	2 Years.	Apr. 10, 1909.	Santa Rosa.	Oct. 25	Organic heart trouble.
John Bobelaw......	40	B.	Asst. to Murder	5 Years.	Oct. 17, 1909.	Putnam....	Oct. 26	Drinking poison medicine.
Alfred Hutchinson..	51	B.	Manslaughter	7 Years.	Apr. 20, 1909.	Madison...	Oct. 26	Paralysis of the heart.
John Williams	30	B.	Bkg. & Ent'g.	5 Years.	Oct. 17, 1909.	Putnam....	Oct. 25	Shot while escaping.
Jim Duncan	25	B.	Arson	7 Y.10 D.	Apr. 23, 1909.	Escambia..	Dec. 4	Consumption.
F. C. Taylor	43	B.	Asst. to Murder	5 Years.	May 4, 1908.	St. Johns...	Dec. 17	Organic heart trouble.

TABLE NO. 1—1910.

Prisoners on hand January 1, 1910	1,301	
Prisoners committed during year	442	
Prisoners discharged by expiration of sentence		342
Prisoners died during year		20
Prisoners returned from asylum	2	
Prisoners sent to asylum		4
Prisoners escaped during year		64
Prisoners recaptured during year	36	
Prisoners pardoned		25
Prisoners on hand January 1, 1911		1,326
Prisoners handled during year	1,781	1,781

TABLE NO. 2.

Nationality, Sex and Color of Prisoners Committed During Year 1910.

Georgia	101
South Carolina	40
West Indies	2
Unknown	2
Florida	187
North Carolina	18
Virginia	11
Massachusetts	5
Tennessee	6
Mississippi	7
Indiana	3
Alabama	22
Louisiana	8
Pennsylvania	5
Delaware	2
New York	3
Cuba	6
Ohio	1
Kentucky	5

Jamaica	5
Spain	3
Total	442

Natives	428
Foreigners	14
Total	442

White females	1
White males	78
Colored females	19
Colored males	344
Total	442

TABLE NO. 3.

Crimes for which sentenced during year 1910.

Larceny	21
Grand larceny	85
"2nd" larceny	11
Assault to committ manslaughter	7
Assault to committ murder	50
Murder	50
Manslaughter	21
Breaking and entering	44
Arson	4
Robbery	11
Breaking and entering to commit a felony	20
Breaking and entering to commit a misdemeanor	34
Perjury	6
Resisting an officer	2
Assault to rape	7
Forgery	11
Forgery and uttering a forged instrument	8
Burglary	11
Carnal intercourse with unmarried female under the age of 18 years	3
Rape	4
Lewd and lascivious behaviour	5

Shooting into a R. R. car	2
Shooting into a store room	2
Shooting into a dwelling	1
Interferring with R. R. switch	2
Crime against nature	3
Sodomy	1
False pretenses	2
Fraudulently marking animals	1
Assault to rob	5
Obtaining money under false pretenses	1
Bigamy	1
Incest	1
Larceny of a horse	2
Larceny of a steer	3
Total	442

TABLE NO. 4.

Term of Imprisonment of Prisoners Committed During Year 1910.

Four years	17
Five years	67
Life	44
Two years six months	3
Two years	80
Six years	8
One year	66
Three years	45
Six months	10
Seven months	2
Three months	2
Seven years	8
Ten years	21
Eighteen months	14
Nine years	4
Fourteen years	2
Twenty years	6
Fifteen years	2
Eight years	4
Four years, ten days	1
Eighteen years, ten days	2

Eighteen years	1
Ten years, thirty days	1
Eight years, ten days	4
One year, one month	2
One year, two months	2
Ten months	1
Eight months	2
Eleven years	2
One year, eight months, nineteen days	1
Four years, three months	2
Two years, six months, and twenty days	6
Seventeen years, one month	3
Two years, eleven months, twenty days	2
One year, eleven months	1
One year, eight months	1
One year, nine months	1
One year, ten months	2
Total	442

TABLE NO. 5.

Age of Prisoners Committed During Year 1910.

Twelve years	1
Thirteen years	2
Fourteen years	4
Fifteen years	4
Sixteen years	12
Eighteen years	21
Seventeen years	19
Nineteen years	26
Twenty years	20
Twenty-one years	26
Twenty-two years	18
Twenty-three years	27
Twenty-four years	25
Twenty-five years	27
Twenty-six years	19
Twenty-seven years	14
Twenty-eight years	17
Twenty-nine years	10
Thirty years	12

Thirty-one years	18
Thirty-two years	12
Thirty-three years	6
Thirty-four years	2
Thirty-five years	7
Thirty-six years	13
Thirty-seven years	9
Thirty-eight years	5
Thirty-nine years	3
Forty years	4
Forty-one years	7
Forty-two years	3
Forty-three years	3
Forty-four years	5
Forty-five years	4
Forty-six years	4
Forty-seven years	1
Forty-eight years	5
Forty-nine years	2
Fifty years	4
Fifty-one years	2
Fifty-two years	1
Fifty-four years	2
Fifty-six years	3
Fifty-seven years	3
Fifty-nine years	5
Sixty-four years	5
Total	442

TABLE NO. 6.

Prisoners Received by Counties During Year 1910.

Alachua	15
Baker	4
Bradford	2
Brevard	9
Calhoun	0
Clay	11
Citrus	7
Columbia	5
Dade	18

DeSoto	1
Duval	84
Escambia	14
Franklin	4
Gadsden	4
Hamilton	4
Hernando	2
Hillsborough	17
Holmes	4
Jackson	6
Jefferson	7
LaFayette	3
Lake	8
Lee	3
Levy	8
Leon	9
Liberty	2
Madison	6
Manatee	5
Marion	23
Monroe	12
Nassau	11
Orange	12
Osceola	3
Pasco	7
Polk	6
Putnam	13
Palm Beach	2
Santa Rosa	5
St. Johns	17
St. Lucie	0
Sumter	0
Suwannee	14
Taylor	7
Volusia	17
Wakulla	5
Walton	21
Washington	5
Total	442

TABLE NO. 7—PRISONERS PARDONED DURING YEAR 1910.

Name.	Color.	Crime.	Term.	Sentenced. When.	Sentenced. County Where.	Date of Pardon.
Zack General	Black.	Murder	Life	Oct. 14, 1895.	Madison	Mar. 14, 1910.
Earnest Jackson ..	Black.	2nd Larceny	4 Years	Nov. 18, 1907.	St. Johns	Mar. 21, 1910.
Nathaniel Baker .	Black.	Assault to rape	10 Years	July 25, 1905.	Hamilton	Apr. 23, 1910.
Peter Pinder	Black.	Murder	Life	Apr. 14, 1891.	Clay	May 20, 1910.
Monroe Kirby	White.	Assault to murder	3 Years	Oct. 31, 1908.	Bradford	May 13, 1910.
I. J. Danford	White.	Manslaughter	7 Years	July 7, 1907.	Jackson	May 13, 1910.
James Johnson ...	Black.	Obstructing a railroad track	5 Years	Nov. 24, 1909.	Alachua	May 13, 1910.
Wiley Shingle ...	Black.	Murder	Life	Apr. 11, 1893.	Marion	May 20, 1910.
Sykes Williams ...	Black.	Rape	Life	Dec. 16, 1889.	Duval	May 20, 1910.
Will Mills	Black.	Murder	Life	Nov. 21, 1892.	St. Johns	May 20, 1910.
M. B. Charles.....	White.	Aiding in drawing a bill of exchange without authority with intent to defraud	2 Yrs. 6 Mos	Sept. 13, 1909.	Escambia	July 3, 1910.
Ruff Harris	Black.	Robbery	10 Years	Apr. 13, 1903.	Gadsden	July 15, 1910.
R. W. Daniels.....	Black.	Arson	20 Years	Dec. 15, 1901.	Dade	July 15, 1910.
L. B. Carraway...	White.	Assault with intent to commit manslaughter..	3 Years	Jan. 14, 1910.	Suwannee ...	July 15, 1910.
Ben Massey	Black.	Murder	Life	Jan. 11, 1892.	Alachua	Sept. 5, 1910.
Hugh Kelley	Black.	Murder	Life	Oct. 1, 1905.	Levy	Sept. 5, 1910.
Columbus Cannon	Black.	Larceny	2 Years	Apr. 10, 1909.	Santa Rosa...	Sept. 5, 1910.
Angelo Sardino ...	White.	Perjury	10 Years	June 24, 1910.	Hillsboro	Sept. 5, 1910.
Richard McLeod .	Black.	Murder	Life	May 11, 1901.	Dade	Nov. 11, 1910.
Snell Donaldson .	Black.	Manslaughter	20 Years	Jan. 6, 1898.	Escambia	Nov. 11, 1910.

TABLE NO. 7—PRISONERS PARDONED DURING YEAR 1910.—Continued.

Name.	Color.	Crime.	Term.	Sentenced.		Date of Pardon.
				When.	County Where.	
Albert Flowers ...	White.	Grand larceny	1 Yr. 6 Mos.	Apr. 25, 1910.	Walton	Nov. 11, 1910.
Nathaniel Knight	Black.	Assault to commit manslaughter	5 Years	Nov. 29, 1909.	Hillsboro	Nov. 11, 1910.
C. J. Sygalas	White.	Lewd and lascivious association and cohabitation together	2 Years	Nov. 4, 1909.	Brevard	Nov. 11, 1910
Lewis McCaskill .	Black.	Incest	5 Years	May 4, 1908.	Walton	Dec. 1, 1910.
John Hardin	White.	Larceny of a cow	2 Years	Apr. 11. 1909.	Citrus	Nov. 30. 1910.

TABLE NO. 8—ESCAPED DURING YEAR 1910.

Name	A.	C.	Crime.	Term.	Sentenced.		Escaped, When.
					When.	County Where.	
Ben Speakman	36	B.	Assault to murder	1 Year	Jan. 21, 1910.	Marion	Jan. 25, 1910.
Walter King	28	B.	Shooting into a dwelling.	7 Years	May 3, 1909.	Columbia	Feb. 9, 1910.
John Blair	36	B.	Assault to murder	3 Years	Mar. 3, 1909.	Duval	Feb. 9, 1910.
James Simon	27	B.	Murder	Life	Nov. 18, 1909.	Alachua	Feb. 10, 1910.
Harry Allen	22	B.	Assault to murder	4 Yrs. 10 Days	Feb. 24, 1909.	Escambia	Feb. 17, 1910.
Will McNeill	46	B.	Breaking and entering	2 Years	Oct. 25, 1908.	Polk	Feb. 22, 1910.
Thomas Douglass	26	B.	Murder	Life	Mar. 27, 1909.	Alachua	Feb. 27, 1910.
Willie Williams	20	B.	Breaking and entering	3 Years	Nov. 7, 1909.	Duval	Feb. 27, 1910.
Robert Flowers	22	B.	Assault to rape	11 Years	Nov. 10, 1909.	Washington	Feb. 27, 1910.
Walton White	25	B.	Breaking and entering	5 Years	Dec. 18, 1909.	Marion	Feb. 27, 1910.
Leslie Cox	21	W.	Murder	Life	Jan. 8, 1910.	Columbia	Mar. 4, 1910.
J. T. Lewis	29	B.	Grand larceny	2 Yrs. 6 Mos.	Mar. 1, 1910.	Escambia	Mar. 4, 1910.
Robt. Washington	23	B.	Grand larceny	1 Year	Jan. 31, 1910.	Duval	Mar. 16, 1910.
H. S. Barnes	33	B.	Forgery	5 Years	Feb. 21, 1907.	Hillsboro	Mar. 17, 1910.
Lee Gatwood	30	B.	Murder	20 Years	Apr. 15, 1900.	Pasco	Mar. 26, 1910.
James Harvey	41	B.	Breaking and entering	15 Years	Apr. 13, 1907.	Clay	Mar. 30, 1910.
Francis Bailey	29	B.	Murder	Life	Apr. 16, 1905.	Pasco	Mar. 31, 1910.
Munroe Gaulding	19	B.	Grand larceny	2 Years	Aug. 31, 1909.	Duval	Apr. 3, 1910.
John Henry	26	B.	Breaking and entering	2 Years	Oct. 15, 1909.	Calhoun	Apr. 23, 1910.
Lias Jones	30	B.	Breaking and entering	3 Years	Apr. 5, 1904.	Polk	Apr. 26, 1910.
J. J. Corbett	24	B.	Burglary	5 Years	Mar. 11, 1907.	Hillsboro	Apr. 30, 1910.
Baker Carroll	34	B.	Murder	Life	Nov. 13, 1907.	Gadsden	May 3, 1910.
John Harris	28	B.	Grand larceny	1 Yr. 6 Mos.	May 3, 1910.	St. Johns	May 12, 1910.
Henry Johnson	27	W.	Open and lewd behaviour.	2 Years	May 3, 1910.	Hillsboro	May 14, 1910.

TABLE NO. 8—ESCAPED DURING YEAR 1910.—Continued.

Name.	A.	C.	Crime.	Term.	Sentenced. When.	Sentenced. County Where.	Escaped, When.
John Calhoun	43	W.	Grand larceny	2 Years	Feb. 21, 1910.	Duval	May 19, 1910.
J. W. Robinson	27	W.	Larceny	4 Years	July 15, 1909.	Jackson	May 19, 1910.
Arthur Johnson	17	B.	Breaking and entering	1 Yr. 6 Mos.	Apr. 24, 1910.	Walton	June 1, 1910.
Abraham Pugh	43	B.	Murder	Life	Aug. 10, 1908.	Escambia	June 3, 1910.
David Cecil	35	B.	Grand larceny	3 Years	Apr. 1, 1910.	Manatee	June 3, 1910.
Herbert Reed	28	B.	Murder	Life	Nov. 27, 1907.	Suwannee	June 17, 1910.
Everett Bass	35	B.	Assault to murder	5 Years	May 3, 1909.	Columbia	June 20, 1910.
Durse Webb	33	B.	Robbery	5 Years	Apr. 25, 1903.	Dade	June 25, 1910.
John Guidon	29	B.	Breaking and entering	5 Years	Oct, 14, 1905.	Volusia	June 30, 1910.
Henry Wilson	24	B.	Breaking and entering	1 Year	Aug. 31, 1909.	Duval	June 30, 1910.
Simon King	24	B.	Manslaughter	10 Years	Jan. 6, 1910.	Hillsboro	July 7, 1910.
William Johnson	40	B.	Breaking and entering	20 Years	Nov. 28, 1891.	Duval	July 11, 1910.
Berry Hurst	33	B.	Robbery	5 Years	Apr. 25, 1903.	Dade	July 14, 1910.
Charles Washington	20	B.	Robbery, b'k'g and entering	3 Yrs. 6 Mos.	Oct. 31, 1908.	Clay	July 19, 1910.
C. L. Johnson	36	B.	Grand larceny	6 Months	May 3, 1910.	Duval	July 22, 1910.
Lee Raspberry	24	B.	Assault to murder	7 Years	Apr. 28, 1907.	St. Johns	July 22, 1910.
Thos. Billingsley	25	W.	Grand larceny	4 Years	Dec. 2, 1909.	Osceola	July 25, 1910.
P. A. Grace	25	W.	Grand larceny	13 Years	May 12, 1908.	Duval	July 25, 1910.
Ben Jones	18	B.	Murder	10 Years	Apr. 23, 1910.	Pasco	July 29, 1910.
A. W. Bradley	45	B.	Larceny	2 Years	Apr. 7, 1910.	Manatee	July 31, 1910.
John Harris	22	B.	Assault to murder	5 Years	Apr. 28, 1910.	Duval	July 29, 1910.
E. M. Billington	23	W.	Manslaughter	3 Years	Mar. 29, 1910.	Levy	Aug. 2, 1910.
Will Hamilton	39	B.	Breaking and entering	3 Years	Feb. 28, 1910.	Escambia	Aug. 3, 1910.
Will Johnson	20	B.	Breaking and entering	5 Years	Nov. 4, 1907.	Clay	Aug. 10, 1910.
Wm. Fergerson	28	B.	Bigamy	5 Years	Nov. 5, 1909.	Columbia	Aug. 24, 1910.

Sonnie Scott	22	B.	Grand larceny	9 Years	July 4, 1910.	Duval	Aug. 24, 1910.
Ed. West	31	B.	Robbery	5 Years	Aug. 3, 1909.	Hillsboro	Aug. 25, 1910.
Henry Jackson	26	B.	Breaking and entering	10 Years	Nov. 11, 1909.	Citrus	Aug. 25, 1910.
Sam Floyd	23	B.	Manslaughter	20 Years	Apr. 10, 1905.	Manatee	Aug. 31, 1910.
Pearl Lackley	27	B.	Murder	Life	Dec. 8, 1906.	Jackson	Sept. 6, 1910.
Richard Hamilton	34	B.	Breaking and entering	20 Years	Nov. 20, 1909.	Lee	Sept. 6, 1910.
Edward Austin	32	B.	Breaking and entering	3 Years	Dec. 9, 1908.	Marion	Sept. 12, 1910.
Thomas Dewey	22	B.	Grand larceny	5 Years	Nov. 7, 1909.	Duval	Sept. 15, 1910.
Kid James	29	B.	Murder	Life	July 24, 1906.	Hamilton	Oct. 3, 1910.
Lias Jones	30	B.	Breaking and entering	3 Years	Apr. 5, 1904.	Polk	Oct. 18, 1910.
Willie Greene	19	B.	Robbery	7 Years	June 2, 1910.	Alachua	Oct. 20, 1910.
John Williams	37	B.	Assault to murder	10 Years	June 9, 1903.	Citrus	Nov. 15, 1910.
Joe Boyd	25	B.	Breaking and entering	1 Yr. 6 Mos.	Nov. 11, 1909.	Citrus	Nov. 17, 1910.
George James	16	B.	Breaking and entering	2 Years	June 26, 1910.	Suwannee	Dec. 7, 1910.
W. Thompson	23	B.	Assault to rape	5 Years	Mar. 4, 1908.	St. Lucie	Dec. 17, 1910.

TABLE NO. 9—RECAPTURES DURING YEAR 1910.

Name	A.	C.	Crime.	Term.	Sentenced.		Recaptured, When.
					When.	County Where.	
John Blair	36	B.	Assault to murder	3 Years	Mar. 3, 1909.	Duval	Sept. 28, 1910.
James Simon	27	B.	Murder	Life	Nov. 18, 1909.	Alachua	Mar. 17, 1910.
Harry Allen	22	B.	Assault to murder	4 Yrs. 10 Days	Feb. 24, 1909.	Escambia	Apr. 28, 1910.
Robt. Washington	23	B.	Grand larceny	1 Year	Jan. 31, 1910.	Duval	Mar. 17, 1910.
Munroe Golding	19	B.	Grand larceny	2 Years	Aug. 31, 1909.	Duval	Apr. 12, 1910.
John Henry	26	B.	Breaking and entering	2 Years	Oct. 15, 1909.	Calhoun	May 6, 1910.
Lias Jones	30	B.	Breaking and entering	3 Years	Apr. 5, 1904.	Polk	May 3, 1910.
John Harris	28	B.	Grand larceny	1 Yr. 6 Mos.	May 3, 1910.	St. Johns	May 15, 1910.
Henry Johnson	27	W.	Lewd behaviour	2 Years	May 3, 1910.	Hillsboro	Sept. 8, 1910.
J. W. Robinson	28	W.	Larceny	4 Years	July 15, 1909.	Jackson	Aug. 2, 1910.
Abe Wheeler	28	B.	Murder	Life	Nov. 27, 1907.	Suwannee	Feb. 5, 1910.
Rosa Fuller	35	B.	Assault to murder	5 Years	May 3, 1909.	Columbia	Feb. 13, 1910.
Berry Hurst	33	B.	Robbery	5 Years	Apr. 25, 1903.	Dade	Apr. 3, 1910.
Joe Williams	29	B.	Breaking and entering	5 Years	Oct. 14, 1905.	Volusia	Apr. 30, 1910.
Wm. Bailey	24	B.	Breaking and entering	1 Year	Aug. 31, 1909.	Duval	June 20, 1910.
John Guidon	30	B.	Manslaughter	20 Years	Apr. 19, 1909.	Putnam	July 25, 1910.
Henry Wilson	20	B.	Robbery	3 Years	May 1, 1910.	Walton	July 1, 1910.
Simon King	24	B.	Manslaughter	10 Years	Jan. 6, 1910.	Hillsboro	July 13, 1910.
Wm. Johnson	40	B.	Breaking and entering	20 Years	Nov. 28, 1890.	Duval	July 16, 1910.
Berry Hurst	33	B.	Robbery	5 Years	Apr. 28, 1903.	Dade	July 19, 1910.
C. L. Johnson	36	B.	Grand larceny	6 Months	May 3, 1910.	Duval	Aug. 9, 1910.
Lee Rasberry	24	B.	Assault to murder	7 Years	Apr. 28, 1907.	St. Johns	Dec. 17, 1910.
John Harris	22	B.	Assault to murder	5 Years	Apr. 28, 1910.	Duval	Aug. 4, 1910.
E. M. Billington	23	W.	Manslaughter	3 Years	Mar. 29, 1910.	Levy	Aug. 9, 1910.
Will Jackson	39	B.	Breaking and entering	3 Years	Feb. 28, 1910.	Escambia	Aug. 12, 1910.

William Fergerson.	23	B.	Bigamy	5 Years	Nov. 5, 1909.	Columbia	Oct. 1, 1910.
Sonnie Scott	22	B.	Grand larceny	9 Years	July 4, 1910.	Duval	Oct. 1, 1910.
Sam Floyd	23	B.	Manslaughter	20 Years	Apr. 10, 1905.	Manatee	Sept. 2, 1910.
Wm. Tatum	29	W.	Robbery	10 Years	June 12, 1905.	Escambia	July 21, 1910.
Edward Austin	32	B.	Breaking and entering	3 Years	Dec. 9, 1908.	Marion	Sept. 14, 1910.
Thomas Dewey	22	B.	Grand larceny	5 Years	Nov. 7, 1909.	Duval	Sept. 17, 1910.
Robert Moss	27	B.	Murder	Life	Oct. 1, 1905.	Levy	Sept. 28, 1910.
Kid James	29	B.	Murder	Life	July 24, 1906.	Hamilton	Oct. 8, 1910.
Jno. Williams	37	B.	Assault to murder	10 Years	June 19, 1903.	Citrus	Nov. 6, 1910.
George James	16	B.	Breaking and entering	2 Years	June 26, 1910.	Suwannee	Dec. 19, 1910.
W. Thompson	23	B.	Assault to rape	5 Years	Mar. 4, 1908.	St. Lucie	Dec. 20, 1910.

TABLE NO. 10—PRISONERS DIED DURING YEAR 1910.

Name.	A.	C.	Crime.	Term.	Sentenced.		Died. 1910.	Disease, or Cause.
					When.	County.		
W. M. Caslon							Feb. 3.	Accute indigestion.
Ottis Thurston							Mar. 5.	Accute congestion of kidneys.
Will Miller							Mar. 6.	Consumption.
Ed. Mitchell							Mar. 29.	Consumption.
Eli Kersey							June 1.	Relapse of Typhoid Fever.
Anthony Glover							May 28.	Pneumonia.
John Harris							Aug. 11.	Shot while attempting to escape.
Warren Brown							Aug. 24.	Heart Disease.
L. L. Franklin							July 30.	Sunstroke.
Jose Fernandez							Aug. 10.	Chronic Piles.
Charles Johnson							July 24.	Syphilitic Arteriosclerosis.
George Heggs							July 24.	Brights Disease.
Joe McCoy							July 1.	Killed by Lightning.
W. Shea							Sept. 1.	Accidentally Drowned.
Isaac Saunders							Sept. 24.	Heart Disease.
Ben Thomas							Oct. 15.	Brights Disease.
Jim Hunt							Oct. 24.	Dropsy.
Hezakiah Simpson							Oct. 31.	Pneumonia.
Jose Lascale							Dec. 3.	Epilepsy.
John Henry							Dec. 10.	Butting head against tree caused clot of blood to settle on brain.

Amounts apportioned to the counties from the funds arising from the hire of State Prisoners for the quarter ending March 31, 1909.

Alachua	$ 1,908.00
Baker	335.50
Bradford	744.00
Brevard	676.50
Calhoun	484.50
Citrus	498.00
Clay	474.00
Columbia	862.00
Dade	1,912.50
DeSoto	1,336.00
Duval	5,199.50
Escambia	2,995.00
Franklin	385.00
Gadsden	759.00
Hamilton	571.00
Hernando	419.00
Hillsborough	4,738.00
Holmes	501.50
Jackson	1,074.00
Jefferson	705.00
Lafayette	731.50
Lake	855.50
Lee	595.00
Leon	1,048.00
Levy	870.50
Liberty	451.50
Madison	826.50
Manatee	714.00
Marion	1,564.50
Monroe	655.50
Nassau	809.00
Orange	1,645.00
Osceola	539.50
Pasco	610.50
Polk	1,877.00
Putnam	961.00
Santa Rosa	1,048.00
St. Johns	1,080.00
St. Lucie	556.50
Sumter	529.50
Suwannee	931.50

Taylor	698.00
Volusia	1,716.50
Wakulla	271.00
Walton	944.50
Washington	935.00
Total	$50,000.00

Amounts apportioned to the counties from the funds arising from the hire of State prisoners for the quarter ending June 30th, 1909.

Alachua	$ 1,526.40
Baker	268.40
Bradford	595.20
Brevard	541.20
Calhoun	387.60
Citrus	398.40
Clay	379.20
Columbia	689.60
Dade	1,530.00
DeSoto	1,068.80
Duval	4,159.60
Escambia	2,396.00
Franklin	308.00
Gadsden	607.20
Hamilton	456.80
Hernando	335.20
Hillsborough	3,790.40
Holmes	401.20
Jackson	859.20
Jefferson	564.00
Lafayette	585.20
Lake	684.40
Lee	476.00
Leon	838.40
Levy	696.40
Liberty	361.20
Madison	661.20
Manatee	571.20
Marion	1,251.60
Monroe	524.40
Nassau	647.20

Orange	1,316.00
Osceola	431.60
Pasco	488.40
Polk	1,501.60
Putnam	732.80
Santa Rosa	838.40
St. Johns	864.00
St. Lucie	446.80
Sumter	423.60
Suwannee	745.20
Taylor	558.40
Volusia	1,373.20
Wakulla	216.80
Walton	755.60
Washington	748.00
Total	$40,000.00

Amounts apportioned to the counties from the fund arising from the hire of State prisoners for the quarter ending September 30, 1909.

Alachua	$ 1,908.00
Baker	335.50
Bradford	744.00
Brevard	676.50
Calhoun	484.50
Citrus	498.00
Clay	474.00
Columbia	862.00
Dade	1,912.50
DeSoto	1,336.00
Duval	5,199.50
Escambia	2,995.00
Franklin	385.00
Gadsden	759.00
Hamilton	571.00
Hernando	419.00
Hillsborough	4,738.00
Holmes	501.50
Jackson	1,074.00
Jefferson	705.00
Lafayette	731.50

Lake	855.50
Lee	595.00
Leon	1,048.00
Levy	870.50
Liberty	451.50
Madison	826.50
Manatee	714.00
Marion	1,564.50
Monroe	655.50
Nassau	809.00
Orange	1,645.00
Osceola	539.50
Pasco	610.50
Polk	1,877.00
Putnam	961.00
Santa Rosa	1,048.00
St. Johns	1,080.00
St. Lucie	556.50
Sumter	529.50
Suwannee	931.50
Taylor	698.00
Volusia	1,716.50
Wakulla	271.00
Walton	944.50
Washington	935.00
Total	$50,000.00

Amounts apportioned to the counties from the funds arising from the hire of State prisoners for the quarter ending December 31, 1909.

Alachua	$ 1,908.00
Baker	335.50
Bradford	744.00
Brevard	676.50
Calhoun	484.50
Citrus	498.00
Clay	474.00
Columbia	862.00
Dade	1,912.50
DeSoto	1,336.00
Duval	5,199.50

Escambia	2,995.00
Franklin	385.00
Gadsden	759.00
Hamilton	571.00
Hernando	419.00
Hillsborough	4,738.00
Holmes	501.50
Jackson	1,074.00
Jefferson	705.00
Lafayette	731.50
Lake	855.50
Lee	595.00
Leon	1,048.00
Levy	870.50
Liberty	451.50
Madison	826.50
Manatee	714.00
Marion	1,564.50
Monroe	655.50
Nassau	809.00
Orange	1,645.00
Osceola	539.50
Pasco	610.50
Polk	1,877.00
Putnam	961.00
Santa Rosa	1,048.00
St. Johns	1,080.00
St. Lucie	556.50
Sumter	529.50
Suwannee	931.50
Taylor	698.00
Volusia	1,716.50
Wakulla	271.00
Walton	944.50
Washington	935.00
Total	$50,000.00

Amounts apportioned to the counties from the funds arising from the hire of State prisoners for the quarter ending March 31, 1910.

Alachua	$ 2,221.80
Baker	455.40
Bradford	870.00
Brevard	780.00
Calhoun	586.80
Citrus	595.80
Clay	567.00
Columbia	1,025.40
Dade	1,190.40
DeSoto	1,584.60
Duval	6,836.40
Escambia	3,618.60
Franklin	448.80
Gadsden	866.40
Hamilton	661.80
Hernando	474.60
Hillsborough	5,714.40
Holmes	581.40
Jackson	1,255.80
Jefferson	817.20
Lafayette	819.00
Lake	1,009.80
Lee	676.80
Leon	1,191.60
Levy	1,007.40
Liberty	452.40
Madison	969.00
Manatee	860.40
Marion	1,849.80
Monroe	891.00
Nassau	937.80
Orange	2,038.20
Osceola	663.00
Palm Beach	1,338.60
Pasco	745.80
Polk	2,276.40
Putnam	1,085.40
St. Johns	1,254.60
St. Lucie	647.40
Santa Rosa	1,225.20
Sumter	614.40

Suwannee	974.40
Taylor	838.20
Volusia	2,070.60
Wakulla	297.60
Walton	1,042.80
Washington	1,069.80
Total	$60,000.00

Amounts apportioned to the counties from the funds arising for the hire of State prisoners for the quarter ending June 30, 1910.

Alachua	$ 2,221.80
Baker	455.40
Bradford	870.00
Brevard	780.00
Calhoun	586.80
Citrus	595.80
Clay	567.00
Columbia	1,025.40
Dade	1,190.40
DeSoto	1,584.60
Duval	6,836.40
Escambia	3,618.60
Franklin	448.80
Gadsden	866.40
Hamilton	661.80
Hernando	474.60
Hillsborough	5,714.40
Holmes	581.40
Jackson	1,255.80
Jefferson	817.20
Lafayette	819.00
Lake	1,009.80
Lee	676.80
Leon	1,191.60
Levy	1,007.40
Liberty	452.40
Madison	969.00
Manatee	860.40
Marion	1,849.80
Monroe	891.00

Nassau	937.80
Orange	2,038.20
Osceola	663.00
Palm Beach	1,338.60
Pasco	745.80
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Putnam	1,085.40
St. Johns	1,254.60
St. Lucie	647.40
Santa Rosa	1,225.20
Sumter	614.40
Suwannee	974.40
Taylor	838.20
Volusia	2,070.60
Wakulla	297.60
Walton	1,042.80
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Total	$60,000.00

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Alachua	$ 2,221.80
Baker	455.40
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Citrus	595.80
Clay	567.00
Columbia	1,025.40
Dade	1,190.40
DeSoto	1,584.60
Duval	6,836.40
Escambia	3,618.60
Franklin	448.80
Gadsden	866.40
Hamilton	661.80
Hernando	474.60
Hillsborough	5,714.40
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Jefferson	817.20
Lafayette	819.00
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Leon	1,191.60
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Monroe	891.00
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Osceola	663.00
Palm Beach	1,338.60
Pasco	745.80
Polk	2,276.40
Putnam	1,085.40
St. Johns	1,254.60
St. Lucie	647.40
Santa Rosa	1,225.20
Sumter	614.40
Suwannee	974.40
Taylor	838.20
Volusia	2,070.60
Wakulla	297.60
Walton	1,042.80
Washington	1,069.80
Total	$60,000.00

Amounts apportioned to the counties from the funds arising from the hire of State prisoners for the quarter ending December 31, 1910.

Alachua	$ 2,221.80
Baker	455.40
Bradford	870.00
Brevard	780.00
Calhoun	586.80
Citrus	595.80
Clay	567.00
Columbia	1,025.40

Dade	1,190.40
DeSoto	1,584.60
Duval	6,836.40
Escambia	3,618.60
Franklin	448.80
Gadsden	866.40
Hamilton	661.80
Hernando	474.60
Hillsborough	5,714.40
Holmes	581.40
Jackson	1,255.80
Jefferson	817.20
Lafayette	819.00
Lake	1,009.80
Lee	676.80
Leon	1,191.60
Levy	1,007.40
Liberty	452.40
Madison	969.00
Manatee	860.40
Marion	1,849.80
Monroe	891.00
Nassau	937.80
Orange	2,038.20
Osceola	663.00
Palm Beach	1,338.60
Pasco	745.80
Polk	2,276.40
Putnam	1,085.40
St. Johns	1,254.60
St. Lucie	647.40
Santa Rosa	1,225.20
Sumter	614.40
Suwannee	974.40
Taylor	838.20
Volusia	2,070.60
Wakulla	297.60
Walton	1,042.80
Washington	1,069.80
Total	$60,000.00

Land Division

LAND DIVISION.

SWAMP AND OVERFLOWED LANDS.

How this class of lands were conveyed to the State and the purpose for which they were to be used, is clearly set out in the following Act:

Chapter LXXXIV, Act of September 28, 1850. Be it enacted, etc.

"That to enable the State of Arkansas to construct the necessary levees and drains to reclaim the swamp and overflowed lands therein, the whole of those swamp and overflowed lands made unfit thereby for cultivation which shall remain unsold at the passage of this Act, shall be, and the same are hereby granted to said State.

"Sec. 2. And be it further enacted, That it shall be the duty of the Secretary of the Interior, as soon as may be practicable after the passage of this Act, to make out an accurate list and plats of the lands described as aforesaid, and transmit the same to the Governor of the State of Arkansas, and, at the request of said Governor, cause a patent to be issued to the State therefor; and on that patent, the fee simple to said lands shall vest in the said State of Arkansas, subject to the disposal of the Legislature thereof: Provided, however, That the proceeds of said lands, whether from sale or by direct appropriation in kind, shall be applied, exclusively, as far as necessary, to the purpose of reclaiming said lands by means of the levees and drains aforesaid.

"Sec. 3. And be it further enacted, That in making out a list and plats of the land aforesaid, all legal subdivisions, the greater part of which is 'wet and unfit for cultivation,' shall be included in said list and plats; but when the greater part of a subdivision is not of that character, the whole of it shall be excluded therefrom.

"Sec. 4. And be it further enacted, That the provisions of this Act be extended to, and their benefits be conferred upon each of the other States of the Union in which such swamp and overflowed lands, known and designated as aforesaid, may be situated."

LANDS GRANTED TO STATE SPECIFICALLY FOR RAILROADS.

Act of Congress of May 17, 1856, Chapter 31, of the U. S. Statutes at Large.

Chap. XXXI. "Be it enacted, etc., That there be and is hereby granted to the State of Florida, for the purpose of aiding in the construction of railroads from St. Johns River, at Jacksonville, to the waters of Escambia Bay, at or near Pensacola, and from Amelia Island, on the Atlantic, to the waters of Tampa Bay, with a branch to Cedar Key, on the Gulf of Mexico; and also a railroad from Pensacola to the State line of Alabama, in the direction of Montgomery, every alternate section of land designated by odd numbers, for six sections in width on each side of each of said roads and branch. But in case it shall appear that the United States have, when the lines or routes of said roads and branch are definitely fixed, sold any sections, or any parts thereof, granted as aforesaid, or that the right of pre-emption has attached to the same, then it shall be lawful for any agent or agents to be appointed by the Governor of said State, to select, subject to the approval of the Secretary of the Interior, from the lands of the United States nearest to the tiers of sections above specified, so much lands in alternate sections or parts of sections, as shall be equal to such lands as the United States have sold, or otherwise appropriated, or to which the rights of preemption have attached as aforesaid; which lands (thus selected in lieu of those sold and to which pre-emption rights have attached as aforesaid, together with the sections and parts of sections designated by odd numbers, as aforesaid, and appropriated as aforesaid,) shall be held by the State of Florida for the use and purposes aforesaid: Provided, that the land to be so located shall in no case be further than fifteen miles from the lines of said roads and branch, and selected for and on account of each of said roads and branch: Provided further, That the lands hereby granted for and on account of said roads and branch, severally, shall be exclusively applied in the construction of that road or branch for and on account of which such lands are hereby granted, and shall be disposed of only as the work progresses, and the same shall be applied to no other purpose whatsoever: And provided further, That any and all lands heretofore reserved to the United States by any Act of Congress, or in any other manner by competent authority, for the purpose of aiding in any object of internal improvement, or for any other purpose whatsoever, be, and the same are hereby reserved to the United States from the operation of this Act, except so far as it may be found necessary to locate the routes of said railroads or branch through such reserved lands; in which case the right of way only shall be granted, subject to the approval of the President of the United States."

Certified lists are on file in this office from the United States Land Office at Washington, D. C., designating the lands granted to the different roads under said Act.

Secs. 636-637, pages 352, 353, General Statutes of the State of Florida, relates to the confirmation of titles to lands conveyed under this Act of Congress. Reference to the attached tables will show the number of acres the railroads received under this grant.

SWAMP LAND INDEMNITY.

See Acts of Congress of March 2, 1855, and March 3, 1857 (Act of 1857 continues in force Act of 1855). Sec. 2, Act of March 2, 1855: "Sec. 2. And be it further enacted, that upon due proof, by the authorized agent of the

State or States, before the Commisisoner of the General Land Office, that any of the lands purchased were swamp lands within the true intent and meaning of the Act aforesaid, the purchase money shall be paid over to said State or States; and where the lands have been located by warrant or scrip the said State or States shall be authorized to locate a quantity of like amount, upon any of the public lands subject to entry, at one dollar and a quarter per acre, or less, and patents shall issue therefor, upon the terms and conditions enumerated in the Act aforesaid: Provided, however, the said decisions of the Commissioner of the General Land Office shall be approved by the Secretary of the Interior."

It is proper to state in connection with this that no lands sold, or in any way conveyed by the United States Government, that are swamp and overflowed, since the Act of 1857, that come under the benefits of this Act but are a clear loss to the State, as the Government in no case reimburses the State.

INTERNAL IMPROVEMENT LANDS.

What we call the "Internal Improvement Lands Proper" are the lands conveyed to the State, under an Act of Congress bearing date of September 4, 1841, and granting 500,000 acres; Section 8 of Chapter XVI, of said Act of September 4, 1841, page 455, U. S. Statutes at Large, reads: "Sec. 8. And be it further enacted, That there shall be granted to each State specified in the first section of this Act, five hundred thousand acres of land for purposes of internal improvement: Provided, That to each of the said States which has already received grants for said purposes, there is hereby granted no more than a quantity of land which shall, together with the amount such State has already received as aforesaid, make five hundred thousand acres, the selections in all of the said States to be made within their limits respectively in such manner as the Legislatures thereof shall direct; and located in parcels conformably to sectional divisions and subdivisions, of not less than three hundred and twenty acres in any one location on any public land except such as is or may be reserved from sale by any law of Congress or proclamation of the President of the United States, which said locations may be made at any time after the lands of the United States in said States respectively, shall have been surveyed according to existing laws. And there shall be and hereby is, granted to each new State that shall hereafter be admitted into the Union, upon such admission, so much land as, including such quantity as may have been granted to such State before its admission, and while under a Territorial Government, for purpose of internal improvement as aforesaid, as shall make five hundred thousand acres of land, to be selected and located as aforesaid."

DISPOSITION OF "INTERNAL IMPROVEMENT LANDS."

An Act of the Legislature, Chapter 3474, approved February 16, 1883, directed that the remainder of these lands be set apart and the proceeds from the sale of the same be applied to the payment of certain bonded indebtedness of the counties which had issued bonds for *aid in building certain railroads* in the State.

The Trustees of the Internal Improvement Fund accepted and approved the Act of the Legislature to distribute the funds arising from the sale of the "Internal Improvement Lands Proper" to the bonded counties. After distributing these funds for several years it was found that some of the counties stopped the levy of their tax for payment of their bonds, while others continued the same. As a result of this action some of the counties liquidated their indebtedness while others had bonds outstanding. The Trustees felt that it was unfair to continue to distribute these funds to only a part of the counties when they had failed to continue their tax. Therefore, for some time past no funds have been distributed. What will finally be done with the remainder is a matter for the Trustees and not this Department. It is patent to any one that the proceeds of this class of land have, also, so far as distributed, gone indirectly to aid in the construction of railroads.

By reference to Table No. 12 of this report will be seen approximately the amount of lands yet to be sold and the amount heretofore disposed of. By reference to the report of the Trustees of the Internal Improvement Fund a full statement can be had as to the condition of the funds, this Department having nothing whatever to do with the handling of said funds.

LANDS DERIVED FROM THE UNITED STATES FOR SCHOOL PURPOSES.

I can give no better information as to how the State of Florida derives aid from the United States Government for educational purposes than to quote from my last biennial report on this subject. Below will be found a synopsis of the Acts and reference to the Acts of Congress, with the aid of which any one can obtain the Act and read the full text, the scope of this report not admitting a full presentation of the different Acts.

From the State Treasurer's report can be learned the amount paid to the State School Fund by the United States Government from the 5 per cent on land sales under the Act of 1845, as set out in the Acts to follow:

Five per cent of the land sales made by the United States Government of the Government lands in said State are paid to the State of Florida for school purposes, under Act of Congress of March 3, 1845, Chapter 75, page 788, vol. 5, United States Statutes at Large.

Under the same Act of March 3, 1845, there was granted to the State what we call our "Seminary Lands," the proceeds arising from the sale of which are applied to the benefit of the University of the State of Florida, located at Gainesville, Florida, and the Florida State College for Women, located at Tallahassee, Florida.

In addition to the above, the same Act of March 3, 1845, sets apart every 16th section in every township in the State for public school purposes, and when, for various reasons, the United States Government can not convey the 16th section for school benefit, indemnity for same, in lands or cash has been granted. These 16th sections are called our "School Lands Proper." I here copy so much of the Act of March 3, 1845, as relates to the above matters for definite information.

Chap. 75, Act of March 3, 1845, Sec. 1:

"Be it enacted, etc., That in consideration of the concessions made by the State of Florida in respect to the public lands, there be granted to the said State eight entire sections of land for the purpose of fixing their seat of Government; also, section number sixteen, in every township, or other lands equivalent thereto, for the use of the inhabitants of such township for the support of such schools; also, two entire townships of land, in addition to the two townships already reserved, for the use of two seminaries of learning. One to be located east, and the other west of the Suwannee river; also, five per centum of the net proceeds of the sale of lands within the said State, which shall be hereafter sold by Congress, after deducting all expenses incident to the same; and which said net proceeds shall be applied by said State for the purpose of education."

SCHOOL INDEMNITY.

Under this head it will be found that the United States Government allows indemnity to the State for lands disposed of by the Government, that were conveyed by other Acts to the State for educational purposes. For many years the State has gotten indemnity in lands under the provision hereinafter set out. The largest recovery under these Acts was the indemnity for the sixteenth sections in the Forbes Purchase which was an old Spanish grant, the title to which was recognized by the United States Government.

Following the Acts here set out, I give copies of the contracts made with the State School Board and Mr. B. F. Hampton, of Gainesville, Florida, which explain themselves. This is reproduced from my last report, as the matters have not been fully wound up:

The Act of February 26, 1859, relates to indemnity. Copy of said Act is as follows:

Chap. 58, Act of Congress February 26, 1859:

Be it enacted, etc., That where settlements, with a view to pre-emption, have been made before the survey of the lands in the field which shall be found to have been made on sections sixteen and thirty-six, said sections shall be subject to the pre-emption claim of such settler; and if they, or either of them, shall have been or shall be reserved or pledged for the use of schools or colleges in the State or Territory in which the lands lie, other lands of like quantity are hereby appropriated in lieu of such as may be patented by pre-emptors; and other lands are also hereby appropriated to compensate deficiencies for school purposes, where said sections sixteen or thirty-six are fractional in quantity, or where one or both are wanting by reason of the township being fractional, or from any natural cause whatever; Provided, That the land by this section appropriated shall be selected and appropriated in accordance with the principles of adjustment and the provisions of the Act of Congress of May 20, 1826, entitled 'An Act to appropriate lands for the support of schools in certain townships and fractional townships not before provided for.' "

Under Act of Congress of February 28, 1891, the Acts relating to indemnity for school lands were amended, to read as follows:

"Chap. 384. An Act to amend Sections 2275 and 2276 of the Revised Statutes of the United States providing for the selection of lands for educational purposes in lieu of those appropriated for other purposes.

"Be it enacted, etc., That sections twenty-two hundred and seventy-five and twenty-two hundred and seventy-six of the Revised Statutes of the United States be amended to read as follows:

"Sec. 2275. Where settlements with a view to pre-emption or homestead have been, or shall hereafter be made, before the survey of lands in the field, which are found to have been made on sections sixteen or thirty-six, those sections shall be subject to the claims of such settlers;

"And if such sections, or either of them, have been or shall be granted, reserved or pledged for the use of schools or colleges, in the State or Territory in which they lie, other lands of equal acreage are hereby appropriated and granted, and may be selected by said State or Territory, in lieu of such as may be thus taken by pre-emption or homestead settlers.

"And other lands of equal acreage are also hereby appropriated and granted, and may be selected by said State or Territory where sections sixteen or thirty-six are mineral land, or are included within any Indian, military or other reservation, or are otherwise disposed of by the United States."

For information concerning the amount of revenue derived from the land sales, in these different branches, reference is made to the tabulated statements in this report relating to the same.

CONTRACTS WITH B. F. HAMPTON AND JAMES M. GRAHAM RELATIVE TO SCHOOL INDEMNITY LAND.

On February 14th, 1893, the State Board of Education appointed B. F. Hampton, Esq., of Gainesville, Florida, agent to select School Indemnity Lands due the State under the Act of Congress of February 26, 1859, and after wards the board entered into contract with Mr. James M. Graham, af Alachua County, Florida, to sell him all lands approved to the State under the selection of B. F. Hampton, at the rate of one dollar and twenty-five cents an acre. The Board has not been put to any expense in making these selections, and has not paid any commissions for the work.

The contract made with Messrs. Graham and Hampton is as follows:

State of Florida,
Leon County.

This contract made and entered into this 25th day of April, A. D., 1893, by and between Henry L. Mitchell, Governor; William B. Lamar, Attorney-General; John L. Crawford, Secretary of State; Clarence G. Collins, State Treasurer, and William N. Sheats, Superintendent Public Instruction, as officers and members of the State Board of Education of Florida, parties of the first part, and James M. Graham, by his attorney in fact, Benjamin F. Hampton, party of the second part, witnesseth:

That the said parties of the first part hereby agree to sell to the said party of the second part, his heirs, administrators, executors and assigns, all the school indemnity lands now due and owing to the State of Florida by the United States, under the Act of Congress of February 26th, 1859, including all lands now selected under said Act, and not yet approved by the Department of the Interior, at one dollar and twenty-five cents ($1.25) per acre, and to make to him or such persons as he may designate, deeds thereto, upon the payment of such sum of $1.25 per acre. It is expressly understood that the said James M. Graham hereby agrees and obligates himself to purchase *at the price named, all the lands found to be due* and owing to the State, under the said Act of Congress of February 26th, 1859, when the same have been approved, and in order to indemnify the said Board against loss by his failure or refusal to carry out the conditions of this contract, the said Graham has deposited $1,500 with the State Treasurer, which said amount, in event of his failure, or refusal, as above set forth, he agrees shall be forfeited to the Board, otherwise the same shall be accepted by the said Board in its final settlement with the said James M. Graham as a part of the purchase money mentioned herein.

In witness whereof we have hereunto set our hands and seals in the city of Tallahassee, Florida, this 25th day of April, A. D., 1893.

HENRY L. MITCHELL, Governor.
(Seal JNO. L. CRAWFORD, Secretary of State.
State Board CLARENCE B. COLLINS, State Treasurer.
of W. B. LAMAR, Attorney-General.
Education.) WM. N. SHEATS, State Supt. Pub. In.
JAMES M. GRAHAM, by B. F. Hampton,
Attorney in Fact.

And under agreements made June 7, 1899, and February 28, 1900, the State Board of Education appointed B. F. Hampton as agent for the State to secure indemnity for all sixteenth sections in the Forbes Purchase agreeing to pay him 20 per cent of all indemnity lands secured by him for the sixteenth sections covered by said Forbes Purchase, and subsequently agreeing to sell him the remainder of said lands secured by him at the rate of $1.00 per acre, the said Hampton agreeing to take all.

The contracts made with B. F. Hampton are as follows:

This agreement made and entered into on this 7th day of June, A. D., 1899, by and between the State Board of Education of Florida, party of the first part, and Benjamin F. Hampton, of Alachua County, Florida, party of the second part, witnesseth: That,

Whereas, The State of Florida is entitled to receive indemnity from the United States Government for the lands in the sixteenth sections in the sales made by the said Government known as the "Forbes Purchase," and

Whereas, The State Board of Education desires to and does engage the services of the party of the second part for the purpose of procuring indemnity from the United States Government by reason of the said "Forbes Purchase," it being deemed necessary to have an agent for this purpose, it is therefore agreed by and between the parties to this instrument that the said party of the second part be, and is hereby employed, constituted and appointed as the agent of the State of Florida, for the purpose of procuring the said indemnity; and the said party of the second part accepts the said employment, and agrees to become the agent of the said State of Florida for the purpose aforesaid, and as compensation for his services, the said party of the first part agrees to transfer and assign to the said party of the second part, twenty (20) per cent of the acreage so procured by the said party of the second part as agent aforesaid, and the party of the second part agrees to accept said twenty (20) per cent of the acreage so procured by him in full settlement for his services, and for all expenses that he may incur in the procuring of the said indemnity as aforesaid.

It is further stipulated that the said party of the second part shall be the sole and exclusive agent of the State of Florida in the procuring of said indemnity from the United States Government, and he shall have and receive from the party of the first part one-fifth of all the acreage that may be allowed to the State of Florida by reason of the said "Forbes Purchase," which said acreage shall be certified to him by the said Board when the same shall have been secured from the Government, and he is hereby appointed agent of the State to select therewith such Government lands as he may want, and the said Board shall deliver deeds thereto to such person or persons as he may designate.

In testimony whereof, the said parties and each of them, have hereunto set their hands and seals, the said Board of Education of Florida has caused the great seal of the State to be attached hereto by the President and Secretary of said body corporate.

THE STATE BOARD OF EDUCATION OF FLORIDA.

W. D. BLOXHAM, President.
(Seal) Attest: WM. N. SHEATS, Secretary.
B. F. HAMPTON. [L. S.]

STATE OF FLORIDA,
County of Leon.

This indenture made and entered into on this 28th day of February, A. D. 1900, by and between the State Board of Education, a body corporate under the laws of the State of Florida, party of the first part, and Benjamin F. Hampton, of Gainesville, Alachua County, Florida, party of the second part, witnesseth:

That, whereas, the said State Board of Education, on the 16th day of January, 1900, passed the following resolution, to-wit: "Resolved, That a contract be, and is hereby made by this Board, with Benjamin F. Hampton, of Gainesville, Florida, to sell and convey to him all of the School Indemnity Lands that he may secure to the State of Florida by reason of the Forbes Purchase (except what will be due to him as commissions), at and for the sum of $1.00 per acre—the purchase price to be paid when the lands shall have been approved and deeds are ready to be made by the Board.

The deeds to be made to such person or persons as said

Benjamin F. Hampton may direct the Commissioner of Agriculture in writing.

Resolved, further, That said B. F. Hampton shall take all of such lands within two years from the time the State is ready to make deeds and to give such guarantee as the Board may require that he will take the whole of such lands at the expiration of that time.

And, whereas, The said party of the second part has accepted the terms and conditions of said resolution, and has agreed to conform thereto and to purchase the lands recited therein. Now, therefore, in consideration of the premises and pursuant to the said resolution, the said State Board of Education does herein and hereby obligate and bind itself and its successors in office, to grant, bargain, sell and convey unto the said Benjamin F. Hampton, and to his heirs and assigns, all of the School Indemnity Lands that the said Benjamin F. Hampton may secure to the State of Florida by reason of the Forbes Purchase (except what will be due to him as commissions), at and for the sum of $1.00 per acre, the purchase price to be paid when the lands shall have been approved and deeds are ready to be made by the said Board to the said Hampton upon the payment by the said Benjamin F. Hampton, or his heirs or assigns, of the said purchase price of $1.00 per acre; Provided, however, that the said Benjamin F. Hampton, or his assigns, shall take all of said lands within two years from the time that the State of Florida, by and through said State Board of Education, is ready to make deeds thereto.

And, provided further, That before any part of said lands shall have been deeded to the said Benjamin F. Hampton, his heirs or assigns, other than as his commissions as aforesaid, he, the said Benjamin F. Hampton, shall make and execute to the State of Florida such bond or obligation as the State Board of Education shall require, agreeing and obligating himself to purchase the whole of said lands within two years from the time that the State Board of Education is ready and able to make deeds thereto.

In witness whereof, the said State Board of Education, by its duly authorized President, and attested by its Secretary, hath authorized the execution of this instrument and hath authorized that its corporate seal be attached hereto, as provided by law, on the day and year first above written.

THE STATE BOARD OF EDUCATION,
Per W. D. BLOXHAM, Pres.
(Seal.) Attest: WM. N. SHEATS, Secty.
B. F. HAMPTON.

Signed, sealed and delivered in
the presence of us as witnesses—
JAS. H. RANDOLPH,
W. M. McINTOSH.

Witnesses as to signature of B. F. Hampton—
G. DZIALYNSKI,
(Seal.) W. W. HAMPTON.

Following out the provisions of the foregoing contracts, the State has secured as indemnity 40,111.76 acres of land from the United States Government, after deducting the 20 per cent allowed B. F. Hampton under his contract, to-wit: 8,022.35 acres, there was net to the State 32,089.41 acres, 1,608.17 acres having been conveyed to the State prior to Hampton's contract to purchase; there was left 30,481.24 acres, and in accordance with the above contract the said Hampton has paid or caused to be paid to the State Treasurer the sum of $30,481.24, being $1.00 per acre as stipulated in the contract. Certificates and floats have been issued to the said Hampton or his assigns to cover any amounts for which patents have not yet issued.

From time to time as the patents are issued to the State, deeds are issued and credited on these floats, the money having been paid over to the State Treasurer, at the time the floats or certificates were issued. There only remains 1,180.69 acres on his $1.00 per acre acount, and 171.14 acres on his service account yet to be deeded, to completely close up this important transaction, which has added a neat sum to the State School Fund.

CONCLUDING REMARKS.

With the tables relating to public lands hereto attached, we close our report on the various subjects under the supervision of the Commisioner of Agriculture.

It has been my purpose to give as full insight into the methods being applied as can well be presented in the scope of a report of this kind. Many matters have presented themselves for discussion and explanation, but want of space has forced us to omit them.

Matters of most general public interest relating to State lands, have been transacted through the Trustees of the Internal Improvement Fund and are of record with the minutes of said Trustees. By application to the Secretary of the Trustees, copies of their report can be had.

I will, however, suggest that the company having the contract with the Trustees for cutting some two hundred miles of canals in the Everglades is progressing satisfactorily with the work. There are now five large dredges at work and one or two more are soon to be added.

The results that have been accomplished during the last two years in the different branches of this department, have by no means been brought about through the efforts, single-handed, of the head of the Department. Each and every one connected with the work has done well his or her part and is entitled to a quota of whatever credit there may be attached to the work.

TABLE NO 1.

Statement of Lands Claimed by, and Conveyed to, Constructed Railroads, Claiming Lands Other Than Alternate Sections, to January 1, 1911.

NAME OF RAILROAD.	Miles Claimed as Constructed.	ACRES CLAIMED.		ACRES DEEDED.			ACRES CLAIMED.		
		Acres Claimed per Mile.	Total Acres Claimed in Addition to Alternate Sections in 6 and 20-Mile Limit.	Acres Deeded Other Than Alternate Sections.	Acres Deeded in Alternate Sections in 6 and 20-Mile Limits.	Total Acres Deeded.	Claimed and Not Deeded in Certificates.	Claimed and Not in Deeds or Certificates.	Total Acres Claimed and Not Deeded.
Florida Southern Ry., formerly Gailesville, Ocala and Charlotte Harbor R. R..	288.22	10,000	2,382,200.00	2,481,618.77	173,863.91	2,655,482.68	131,711.18	268,870.05	400,581.23
Jacksonville, Tampa & Key West Ry., formerly Tampa, Peace Creek & St. Johns River R. R........	130.3	10,000	1,303,000.00	1,285,120.76	189,008.54	1,474,129.30	....	17,879.38	*17,879.38
Silver Springs, Ocala and Gulf R. R......	65.15	10,000	651,500.00	362,194.78	1,405.51	363,600.29	155,743.82	133,561.40	289,305.22
Pensacola and Atlantic R. R..........	161	20,000	3,220,000.00	2,157,757.07	56,267.30	2,214,024.37	44,865.94	1,017,376.99	1,062,242.93

TABLE NO. 1—Continued.

NAME OF RAILROAD.	Miles Claimed as Constructed.	ACRES CLAIMED.		ACRES DEEDED.			ACRES CLAIMED.		
		Acres Claimed per Mile.	Total Acres Claimed in Addition to Alternate Sections in 6 and 20-Mile Limit.	Acres Deeded Other Than Alternate Sections.	Acres Deeded in Alternate Sections in 6 and 20-Mile Limits.	Total Acres Deeded.	Claimed and Not Deeded in Certificates.	Claimed and Not in Deeds or Certificates.	Total Acres Claimed and Not Deeded.
Palatka and Indian River Ry..........	70	6,000	420,000.00	352,477.45	127,094.39	479,571.84	....	....	....
Carrabelle, Tallahassee & Georgia R. R., formerly Augusta, Tallahassee & Gulf R. R.; formerly Thomasville, Tallahassee&Gulf R.R.(1)	48.82	15,000	732,300.00	183,970.30	....	183,970.30	....	513,005.22	513,005.22
Blue Springs, Orange City and Atlantic R. R.	28 1-3	5,000	141,666.66	50,890.74	67,608.25	118,498.99	....	90,775.92	90,775.92
South Florida R. R. (from Sanford to Kissimmee.)	40	3,840	153,600.00	67,661.19	4,767.36	72,428.55	....	85,938.81	85,938.81

Florida East Coast R. R., formerly Jacksonville, St. Augustine & Indian River R. R..............	255	8,000	2,040,000.00	....	....	....	....	2,040,000.00	2,040,000.00
Atlantic, Suwannee River & Gulf R.R.(2)	20	10,000	200,000.00	....	....	....	....	200,000.00	200,000.00
St. Cloud and Sugar Belt R. R..........	15.4	3,840	59,136.00	....	....	....	....	59,136.00	59,136.00
Tallahassee South-Eastern R. R., formerly Georgia, Florida & Western R. R	20	10,000	200,000.00	....	....	....	....	200,000.00	200.000.00
Total			12,003,402.66	6.941,691.06	620,015.26	7,561.706.32	466,720.94	4,626,866.32	5,093,587.26

Note—*14-100 acres excess deeded on road from Kissimmee to Tampa, and this acreage is claimed on road from Jacksonville to Palatka.

(1) The balance of 35,324.48 acres which were embraced in certificate to the Augusta, Tallahassee and Gulf Railroad Company, having been relinquished to the Trustees by the assignees of said company under a settlement with the Trustees of the remaining claim of 72,349.18 acres, which had not heretofore been deeded, is not embraced in the above table.

(2) The act of the Legislature granting lands to the Atlantic, Suwannee River and Gulf Railroad has been declared unconstitutional by the Supreme Court of this State.

(3) SCHOOL FUND.—Residuary interest under railroad land grants, of Florida Southern, Jacksonville, Tampa & Key West, Silver Springs, Ocala & Gulf, Pensacola & Atlantic and South Florida Railroads, amounting to 1,855,947.57 acres, has been duly conveyed to the State Board of Education.

(4) Claim of Palatka and Indian River Ry adjusted. See Table No. 10.

TABLE NO. 2.

SHOWING RAILROADS WHICH RECEIVED NO DEEDS TO SWAMP AND OVERFLOWED LANDS, EXCEPT IN ALTERNATE SECTIONS IN 6 AND 20-MILE LIMITS, TO JAN. 1, 1911.

Name of Railroad.	Acres.
Alabama and Florida (from Pensacola to Georgia line)	27,613.32
East Florida Railway Company (Jacksonville to St. Mary River)	15,731.29
Fernandina and Jacksonville Ry. Co.	23,649.98
Florida, Atlantic and Gulf Central (Jacksonville to Lake City)	164,568.21
Florida Railroad (Fernandina to Cedar Keys and from Waldo to Tampa)	505,144.14
Florida Midland Railway Company	12,856.79
Green Cove Springs and Melrose Ry. Co.	7,781.48
Jacksonville, St. Augustine and Halifax River Railroad Co.	56,782.15
Jacksonville and Atlantic R. R. Company	21,501.62
Jacksonville, Mayport, Pablo Railroad & Navigation Co.	10,837.88
Live Oak and Rowland Bluff R. R. Co.	3,253.21
Orange Belt Railway Company	88,687.92
Pensacola and Georgia Railroad (Lake City to Tallahassee)	65,561.77
St. Johns and Lake Eustis Railroad	14,725.90
Sanford and Indian River Railroad Company	6,192.88
St. John and Halifax Railroad, changed to St. John and Halifax River Railroad Co.	110,398.58
St. Augustine and Palatka Railway Co.	41,510.29
St. John Railway Company	42,315.16
Tavares, Orlando and Atlantic Railroad Co.	4,002.44
Western Railway of Florida (lands not reconveyed)	2,840.00
Total	1,225,955.01

TABLE NO. 3.

RECAPITULATION OF ALL SWAMP AND OVERFLOWED LANDS CONVEYED TO RAILROADS TO JANUARY 1, 1911.

Name of Railroad	Acres.
Alabama and Florida (from Pensacola to Georgia line)	27,613.32
East Florida Railway Company (Jacksonville to St. Marys River)	15,731.29
Fernandina and Jacksonville Railway Co.	23,649.98
Florida, Atlantic and Gulf Central (Jacksonville to Lake City)	164,568.21
Florida Railroad (Fernandina to Cedar Key and from Waldo to Tampa)	505,144.14
Florida Midland Railway Company	12,856.79
Green Cove Springs and Melrose Ry. Co.	7,781.48
Jacksonville, St. Augustine and Halifax River Railroad Company	56,782.15
Jacksonville and Atlantic R. R. Company	21,501.62
Jacksonville, Mayport, Pablo Railway and Navigation Company	10,837.88
Live Oak and Rowlands Bluff R. R. Company	3,253.21
Orange Belt Railway Company	88,687.92
Pensacola and Georgia Railroad (Lake City to Tallahassee)	65,561.77
St. Johns and Lake Eustis Railroad	14,725.90
Sanford and Indian River Railroad Co.	6,192.88
St. Johns and Halifax Railroad, changed to St. Johns and Halifax River Railroad Co.	110,398.58
St. Augustine and Palatka Railway Co.	41,510.29
St. Johns Railway Company	42,315.16
Tavares, Orlando and Atlantic Railroad Co.	4,002.44
Western Railway of Florida (lands not reconveyed)	2,840.00
Florida Southern Railway, formerly Gainesville, Ocala and Charlotte Harbor R. R.	2,655,482.68

Name of Railroad.	Acres.
Jacksonville, Tampa and Key West Railway, formerly Tampa, Peace Creek and St. Johns River Railroad	1,474,129.30
Silver Springs, Ocala and Gulf Railroad	363,600.29
Pensacola and Atlantic Railroad	2,214,024.37
Palatka and Indian River Railway	479,571.84
Carrabelle, Tallahassee and Georgia Railroad, formerly Augusta, Tallahassee and Gulf Railroad; formerly Thomasville, Tallahassee and Gulf Railroad	183,970.30
Blue Springs, Orange City and Atlantic Railroad	118,498.99
South Florida Railroad (from Sanford to Kissimmee)	72,428.55
Total	8,787,661.33

NOTE.—In conveyance to Florida Railroad there are embraced 23,273.58 acres Internal Improvement lands proper.

TABLE NO. 4.

STATEMENT OF SWAMP AND OVERFLOWED LANDS CONVEYED TO CANAL AND DRAINAGE COMPANIES TO JANUARY 1, 1911.

Name of Company.	Acres.
H. L. Hart for removing obstructions from Ocklawaha River	23,356.18
Atlantic and Gulf Coast Canal and Okeechobee Land Company	1,721,530.40
Florida Coast Line Canal and Transportation Company	1,030,559.63
Etoniah Canal and Drainage Company	4,326.47
Total	2,779,772.68

TABLE NO. 5.

NUMBER OF ACRES APPROVED DIRECT BY THE UNITED STATES TO RAILROADS IN FLORIDA, UNDER ACT OF CONGRESS OF MAY 17, 1856, TO JANUARY 1, 1911.

Name of Railroad.	Acres.
Alabama & Florida (from Pensacola to Alabama line)	166,691.08
Pensacola & Georgia (from Lake City to Pensacola)	1,273,145.50
Florida Atlantic & Gulf Central (from Jacksonville to Lake City)	29,103.74
Florida Railroad (from Fernandina to Cedar Key)	290,183.28
Florida Central & Peninsula (from Waldo to Tampa)	447,817.28
Total approved direct by United States	2,206,940.88

TABLE NO. 6.

STATEMENT SHOWING THE STATUS OF ALL SWAMP AND OVERFLOWED LANDS PATENTED TO THE STATE PRIOR TO JANUARY 1, 1911, UNDER ACT OF CONGRESS OF SEPTEMBER 28, 1850.

Number of acres patented to the State		20,207,722.78
Number of acres conveyed to railroad companies	8,787,661.33	
Number of acres deeded to canal & drainage companies	2,779,772.68	

Number of acres deeded E. N. Dickerson in 1867 for coupons of Florida R. R. bonds, which fell due prior to 1866..	248,602.98
Number of acres deeded Wm. E. Jackson in 1868 for coupons of Florida, Atlantic and Gulf Central R. R. bonds........	113,064.80
Wells & Randolph, agents of the State to select swamp and overflowed lands, under contract with the Governor of Florida of Nov. 8, 1851, received the proceeds from sale of about	100,000 00
Number of acres deeded on account of L. G. Dennis, agent of the State to procure and receive patents for swamp and overflowed lands at Washington, under contract with the Governor of Florida of Nov. 10, 1875 (see orders of trustees of July 5, 1881, and April 14, 1883)	5,800.27
Number of acres deeded on account of Williams & Swann, agents of the State to select swamp and overflowed lands, under contract with the trustees of the Int. Imp. Fund of March 5, 1871..............	39,480.27
(Other lands were deeded on account of W. & S., under above contract, belonging to the Int. Imp. Fund proper, embracing	

4,837.98 acres, are not embraced in this statement, as they were not swamp and overflowed lands.)	
Number of acres deeded on account of Williams, Swann & Corley, agents of the State to select swamp and overflowed lands under contract with the trustees of the Int. Imp. Fund of May 18, 1873..	13,542.61
(Other lands were deeded on account of W., S. & C., under above contract, belonging to the Int. Imp. Fund proper, amounting to 15,163.56 acres which are not embraced in this statement, as they were not swamp and overflowed lands.)	
Number of acres deeded on account of Sydney I. Wailes, agent of the State to procure patents for swamp and overflowed lands at Washington, under contract with the trustees of the Int. Imp. Fund of April 13 and Oct. 19, 1878..	224,562.80
Number of acres deeded on account of John A. Henderson, agent of the State to select swamp and overflowed lands under contract with the trustees of the Int. Imp. Fund of March 15, 1884	164,124.68

Number of acres deeded on account of S. W. Teague, agent of the State to select swamp and overflowed lands under contract with the Trustees of the Int. Imp. Fund of March 22, 1902	5,778.37	
Number of acres deeded in Disston sale	4,000,000.00	
Number of acres deeded to all other persons	2,345,070.81	
Total disposed of		18,827,461.70
Leaving balance on hand Jan. 1, 1911		1,380,261.08

TABLE NO. 7.

SWAMP AND OVERFLOWED LANDS GRANTED TO STATE OF FLORIDA UNDER ACT OF CONGRESS, APPROVED SEPTEMBER 28, 1850.

		Acres.
Amount patented to State (as shown by last report) to January 1, 1909. (Estimated.)..		20,204,311.16
Patented to State during years 1909 and 1910, as follows:		
Gainesville District.	Acres.	
Patent No. 164	2,990.00	
Patent No. 165	88.05	
Patent No. 166	333.57	3,411.62
Total patented to January, 1, 1911		20,207,722.78

		Acres.
Total disposed of to January, 1, 1909 (per last report 1907-1908	18,673,148.34	
Already conveyed to heirs of John A. Henderson, but not charged as land conveyed, because land had not been patented. (This area covers the estimated area shown in report of 1907 and 1908 as unpatented in deed to heirs of Henderson. Said land in Gainesville Patent No. 164)..	2,990.00	
Of the area embraced in Gainesville Patent No. 166, 140.13 acres, had been previously conveyed in deed No. 15667, but not charged as conveyed because land was not patented	140.13	
Amount sold in 1909	19,058.66	
Amount sold in 1910	64,924.57	
Amount conveyed to railroads in settlement outstanding claims. (See Table No. 10.)	67,200.00	18,827,461.70
Balance on hand January 1, 1911. (Estimated.)		1,380,261.08

TABLE NO. 8.

LIST OF SWAMP AND OVERFLOWED LANDS SOLD DURING THE YEARS 1909 AND 1910.

1909.

No. Entry.	Acres.	Amount.
*16199	13,600.00	$25,000.00
16200	80.38	120.57
16201	40.00	60.00
16202	40.09	120.27
16203	199.95	599.85
16204	39.92	49.90
16205	39.92	119.76
16206	720.48	2,161.44
16207	39.93	49.91
16208	40.00	120.00
16209	200.06	600.18
16210	39.86	119.58
16212	98.03	147.05
16213	80.00	240.00
16214	40.00	120.00
16215	40.07	120.21
16216	42.88	128.64
16217	120.00	360.00
16219	80.00	240.00
16220	80.00	240.00
16221	3.20	9.60
*16222	......	......
*16223	......	......
16224	80.00	240.00
16225	160.00	480.00
16226	1.50	4.50
16227	40.54	121.62
16228	39.67	59.51
16229	758.00	1,000.00
16230	80.00	120.00

1909.—(*Continued.*)

No. Entry.	Acres.	Amount.
16231	39.93	119.79
16232	80.00	160.00
16233	80.00	240.00
16234	606.91	1,301.00
*16235	......	......
16236	40.00	80.00
16237	79.91	239.73
16238	40.00	120.00
16239	98.95	296.85
*16240	639.84	......
16242	40.05	120.15
16244	40.00	50.00
*16245	......	......
16246	80.58	241.74
16247	80.22	100.28
16248	160.26	480.78
16249	39.83	119.49
16250	80.00	240.00
16251	7.70	23.10
Total	19,058.66	$36,685.50

For additional amounts received during 1909, see Table No. 9.

1910.

No. Entry.	Acres.	Amount.
16252	67.00	$ 201.00
16253	40.00	120.00
16254	40.03	120.09
16255	40.00	120.00
16256	80.28	240.84
16257	176.30	528.90
16258	2.63	7.89
16259	80.00	240.00

1910.—(*Continued.*)

No. Entry.	Acres.	Amount.
16260	88.05	264.15
16261	143.48	430.44
16262	285.21	855.63
16263	280.00	840.00
16264	200.27	600.81
16265	281.61	844.83
16266	279.85	839.55
16267	40.00	40.00
*16268	......	......
*16269	......	......
*16270	......	......
*16271	......	......
16272	280.00	840.00
16273	280.00	840.00
16274	280.00	840.00
16275	280.00	840.00
16276	160.00	480.00
16277	40.00	120.00
16278	80.00	240.00
16279	10,130.50	30,391.50
16280	37.25	745.00
16281	160.86	321.72
16282	40.00	120.00
*16283	......	......
*16284	......	......
*16285	......	......
16286	40.75	61.13
16287	40.00	80.00
16288	80.00	120.00
*16289	......	......
16290	40.00	80.00
16291	13.20	19.80
16292	14.00	21.00
16293	40.00	50.00

1910.—(*Continued.*)

No. Entry.	Acres.	Amount.
*16294	......	......
16295	40.00	280.00
16296	50,560.00	20,000.00
16297	122.82	491.28
16298	40.48	121.44
Total	64,924.57	$63,397.00
Amount paid January 11, 1910, on Entry No. 16199, made in 1909, being 5th and last payment under contract with Trustees		6,200.00
		$69,597.00

For additional amounts received during 1910, see Table No. 9.

NOTE.—Entry 16199, 1st, 2nd, 3rd and 4th payments; Resolutions Trustees, January 6, 1909; fifth and last payment made January 11, 1910.

Entries 16222, 16223, 16225, located with Swamp Indemnity Certificates—consideration having been paid years ago.

Entry 16240, entered on account of Samuel W. Teague, for selecting Swamp Lands—Resolution Trustees, December 1, 1909.

Entry 16245, Exchange of land—Resolution Trustees, December 16, 1909.

Entries 16268, 16269, 16270, 16271, 16283, 16289, located with Swamp Indemnity Certificates; consideration having been paid years ago.

Entries 16284, 16285, exchange of land—Resolutions Trustees, May 27, 1910, June 16, 1910.

Entry 16294, see Table No. 10.

Missing numbers, see Table No. 12.

TABLE NO. 9.

Amounts Paid on Entries Made Prior to 1909 and 1910, Under Contracts and Agreements with Trustees of the Internal Improvement Fund of Florida. (Swamp Land.):

1909.		1910.	
No. Entry.	Amt. Paid.	No. Entry.	Amt. Paid.
16,160	$ 36,640.00	16,198	*$261,250.00
16,189	68,170.00		
16,198	* 110,000.00		
	$214,810.00		$261,250.00

*Note:—Of the amount of $110,000.00 paid in 1909 and $261,250.00 paid in 1910, $75,000.00 in 1909 and $161,250.00 in 1910 was paid into the drainage fund under the terms of the contratct of sale of this land.

TABLE NO. 10.

Showing Acreage Conveyed to Railroads During Years 1909 and 1910, of Lands Embraced in Certificates Issued in Former Years:

No. Deed	Corporation to Whose Account Conveyance is Charged.	To Whom Conveyed.	Acres.
16,294	Palatka & Indian River R. R. Co.	Florida East Ry. Co.	67,200

Note—The above conveyance, dated September 26, 1910, embraces one-half of the acreage embraced in Certificate No. 13835, dated December 31, 1888, and issued by the Trustees of the Internal Improvement Fund of Florida to the Palatka and Indian River Railway Company. The balance of said certificate, embracing 67,200.00 acres, was purchased by the Trustees from the holders of one-half of said certificate, at 10 cents per acre; and said lands are now vacant State lands.

(See minutes Trustees, dated June 16, 1910.)

TABLE NO. 11.

SWAMP LAND INDEMNITY.

The quantity of land located by the respective owners of Swamp Land Indemnity Certificates, which has been patented to the State, is as follows:

		Acres.
Total approved as per last report......		93,172.40
Following approved to State in 1909 and 1910, to-wit:		
Supplement "F" to Special Indemnity Patent No. 4......................	57.34	
Palatka Patent No. 8, Supplement "A".	680.96	738.30
Total patented to Jan. 1, 1911......		93,910.70
Of which there has been conveyed by the State to the owners of the certificates, or to such persons as they directed, per last report.....................		89,598.86
Conveyed in 1909 and 1910............		3,601.20
Total conveyed to Jan. 1, 1911.....		93,200.06

Entry No.	Acres.
16,222	8.77
16,223	48.57
16,235	39.97
16,268	80.11
16,269	1,449.29
16,270	572.96
16,271	399.57
16,283	680.96
16,289	321.00
	3,601.20

TABLE NO. 12.

Internal Improvement Lands Granted Under Act of Congress, Approved September 4, 1841. (Total Grant 500,000 Acres.)

	Acres.
Amount on hand January 1, 1909	5,700.32
Sold during 1909	318.84
Balance on hand January 1, 1911	5,381.48

List of Internal Improvement Lands Sold During Years 1909 and 1910.

1909.

No. Entry.	Acres.	Amount.
16211	40.00	$ 120.00
16218	40.00	120.00
16241	118.84	356.52
16243	120.00	240.00
Total	318.84	$ 836.52

Note—No entries of Internal Improvement lands during 1910.

TABLE NO. 13.

SCHOOL LANDS.

Granted Under Acts of Congress, Approved March 3, 1845, February 26, 1859, February 28, 1891.

		Acres.
Amount on hand January 1, 1909. (Approximated.)		255,548.05
	Acres.	
Surveyed	112,211.66	
Unsurveyed	143,336.39	
	255,548.05	
Amount School Indemnity lands approved 1909-1910, in Lists 32, 33, 34, 35, 36, 37		2,024.35
Total		257,572.40
Amount sold 1909	6,575.16	
Amount sold 1910	41,504.11	48,079.27
(Estimated.)		209,493.13
Amount of School lands determined by more complete maps of the Everglades territory		17,035.09
Total on hand January 1, 1911		226,528.22
Surveyed	66,796.74	
Unsurveyed	159,731.48	
	226,528.22	Estimated.

TABLE NO. 14.

LIST OF SCHOOL LANDS SOLD DURING YEARS 1909 AND 1910.

1909.

No. Entry.	Acres.	Amount.
3657	3.73	$ 4.66
3658	85.00	106.25
3659	159.11	198.89
3660	400.32	500.40
3661	27.50	27.50
3662	79.96	239.88
3663	40.05	120.15
3664	40.00	120.00
3665	40.00	120.00
3666	79.64	159.28
3667	80.25	240.75
3668	40.00	120.00
3669	39.99	119.97
3670	167.00	501.00
3671	80.00	240.00
3672	39.85	119.85
3673	4,788.04	9,576.08
3674	40.00	120.00
3675	.20	10.00
3676	25.25	75.75
3677	7.44	22.32
3678	151.83	455.49
3679	80.00	240.00
3680	80.00	240.00
Total	6,575.16	$ 13,678.22

For additional amounts received during 1909, see Table No. 15.

1910.

No. Entry.	Acres.	Amount.
3681	256.21	$ 256.21
3682	49.00	49.00
3683	40.00	120.00
3684	80.00	240.00
3685	300.00	900.00
3686	300.00	900.00
3687	300.00	900.00
3688	300.00	900.00
3689	40.08	50.10
3690	100.00	300.00
3691	240.00	720.00
3692	160.00	480.00
3693	240.00	720.00
3694	479.40	599.25
3695	280.00	840.00
3696	160.00	480.00
3697	160.00	480.00
3698	160.00	480.00
3699	280.00	840.00
3700	40.03	120.09
3701	279.54	838.62
3702	300.00	900.00
3703	260.00	780.00
3704	80.00	240.00
3705	40.00	120.00
3706	40.00	120.00
3707	40.00	120.00
3708	279.54	838.62
3709	300.00	900.00
3710	24,533.80	61,334.50
3711	640.20	1,920.60
3712	638.96	1,916.88
3713	4,440.61	13,321.83
3714	40.11	120.33

1910—*Continued.*

No. Entry.	Acres.	Amount.
3715	240.00	720.00
3716	100.00	300.00
3717	100.00	300.00
3718	100.00	300.00
3719	45.40	56.75
3720	29.28	36.50
3721	37.80	47.25
3722	80.43	80.43
3723	4,203.12	12,609.36
3724	39.52	118.56
*3725	200.00	2,000.00
3726	120.00	360.00
3727	47.20	59.00
3728	82.08	82.08
3729	81.67	102.09
3730	.13	.16
3731	120.00	145.86
Total	41,504.11	$111,164.07

Note.—Entry No. 3725. First payment; Resolutions State Board of Education April 20, and October 17, 1910. One hundred and nineteen dollars and eleven cents interest on this entry was paid into the State Treasury November 1, 1910.

TABLE NO. 15.

Showing Amounts Collected on Instalment Entries of School Lands Made Under Statutes Now Obsolete:

1909.

No. Entry.	No. Instalment.	Amount Paid.
3,539	3rd.	$16.63
2,723	2nd and 3rd.	66.00
Total	....	82.63

Note—No collections on instalment entries during year 1910.

TABLE NO. 16—SEMINARY LANDS.

	Acres.
Total on hand January 1, 1911.................	444.86

Note—No sales of Seminary lands during years 1909 and 1910.

TABLE NO. 17.

Showing State Lands on Hand January 1, 1911—Estimated.

County.	Swamp.	I. I. Proper.	School.	Seminary.
Alachua	512.26	....	640.72	......
Baker	255.40	....	786.50	......
Bradford	2,069.77	329.00	120.46	......
Brevard	866.28	167.38	6,356.71	......
Calhoun	575.31	117.95	3,206.09	......
Citrus	11,480.52	....	671.01	......
Clay	206.04	....	400.70	......
Columbia	1,211.63	....	18.20	......
Dade	680,580.59	....	* 44,862.37	......
DeSoto	40,494.48	....	20,794.76	......
Duval	2,492.29	....	1,523.09	......
Escambia	2.80	....	158.25	......
Franklin	....	....	....	......
Gadsden	....	....	357.75	40.06
Hamilton	399.74	40.00	....	......
Hernando	....	....	440.00	......
Hillsborough	330.48	....	327.95	404.80
Holmes	....	650.61	490.50	......
Jackson	....	39.85	....	......
Jefferson	....	400.26	963.32	......
LaFayette	290.83	40.28	5,053.42	......
Lake	567.61	....	1,356.82	......
Lee	* 50,163.75	....	* 39,088.63	......
Leon	120.00	....	280.00	......
Levy	4,617.31	....	1,554.19	......
Liberty	....	....	....	......
Madison	39.95	241.73	1,401.16	......
Manatee	4,160.04	....	1,917.36	......
Marion	699.59	335.35	6,848.72	......
Monroe	* 179,751.88	....	* 11,118.95	......

TABLE NO. 17.—(*Continued.*)

Showing State Lands on Hand January 1, 1911—Estimated.

County.	Swamp.	I. I. Proper.	School.	Seminary.
Nassau	1,903.04	80.25	1,920.91	......
Orange	3,564.64	81.31	3,073.13	......
Osceola	1,029.94	....	4,322.52	......
Palm Beach..	* 373,944.23	....	* 44,927.00	......
Pasco	79.89	....	1,286.46	......
Polk	3,905.40	....	3,401.12	......
Putnam	40.54	....	520.79	......
Santa Rosa ..	80.04	....	....	......
St. John	6,794.22	36.86	1,246.02	......
St. Lucie.....	1,204.31	....	6,096.88	......
Sumter	480.76	240.12	640.81	......
Suwannee ...	241.25	539.29	79.91	......
Taylor	....	80.08	2,893.10	......
Volusia	3,028.81	400.00	3,717.94	......
Wakulla	....	840.00	40.00	......
Walton	385.04	200.88	160.00	......
Washington .	1,690.42	520.28	1,464.00	......
Total......	1,380,261.08	5,381.48	226,528.22	444.86

Note—Swamp land area Everglades Patent District:

	Acres.
Dade County	680,580.59
Lee County	26,560.00
Monroe County	179,751.98
Palm Beach County......	370,970.18
Total Estimated........	1,257,862.75

School lands area Everglades Patent District:

	Acres.
Dade County	39,880.80
Lee County	5,760.00
Monroe County	10,240.00
Palm Beach County......	29,567.00
Total Estimated........	85,447.80

Following Circular and Table showing vacant United States lands, are taken from report of the Commissioner of the General Land Office, Washington, D. C., dated July 1, 1910:

VACANT PUBLIC LANDS IN THE UNITED STATES.

Department of the Interior,
General Land Office,
July 1, 1910.

The following tables, based on reports furnished by the district land offices, show, by States, Territories, land districts, and counties, the area of unappropriated and unreserved public lands, surveyed and unsurveyed, and a brief description of the character of the vacant lands. No more specific description of the character of the land, climate, water or timber can be given by the General Land Office. Counties and States in which there are no unappropriated lands are omitted.

A township diagram, showing only entered lands in any township, can be procured by sending $1 to the register and receiver of the land office for that district. The diagram required should be specified by township and range number.

While the figures in the tables may not be absolutely correct, owing to liability to error in a work of such magnitude and to the necessity of making estimates of unsurveyed lands, it is believed that they afford a close approximation to the actual areas. The statement is intended to inform correspondents and the general public as to whether there is much or little public land in the several land States and Territories and the land districts therein and in particular counties or localities.

In many counties only a few acres are reported as vacant Neither the General Land Office nor the local land offices can furnish information as to the location of such tracts, but such information may be obtained from the records of the local land offices, which, when not in official use, are open to inspection by prospective home seekers or their agents.

Before entry personal inspection of the lands should be made to ascertain if they are suitable, and when the applicant is satisfied on this point entry can be made at the local land office in the manner prescribed by law, under the direction of the local land officers, who will give full information. Should anyone desire information in regard to vacant lands in any district before going there for a personal inspection, he should address the register and receiver of the proper local land office, who will give full information regarding vacant lands and the steps necessary to be taken in making entry.

All vacant unappropriated public lands, nonmineral and nonsaline in character, are subject to entry under the homestead laws.

VACANT UNITED STATES LANDS, JULY 1, 1910.

For information regarding these lands, write Register and Receiver, United States Land Office, Gainesville, Florida.

FLORIDA.

Land District and County.	Area Unappropriated and Unreserved.			Brief Description of Character of Unappropriated and Unreserved Land.
	Surveyed	Unsurveyed.	Total	
Gainesville:				
Alachua	7,720	....	7,720	Low pine land
Baker	1,777	....	1,777	Do.
Bradford	1,846	....	1,846	Do.
Brevard	17,037	....	17,037	Low pine & swamp land
Calhoun	9,160	....	9,160	Low pine land
Citrus	4,160	....	4,160	Do.
Clay	9,200	....	9,200	Do.
Columbia	1,363	....	1,363	Do.
Dade	6,720	15,820	22,540	Do.
DeSoto	99,288	....	99,288	Do.
Duval	654	1,200	1,854	Do.
Escambia	2,500	....	2,500	Do.
Gadsden	495	....	495	Do.
Hamilton	650	....	650	Do.
Hernando	1,360	....	1,360	Do.
Hillsboro	1,050	....	1,050	Low pine & swamp land
Holmes	412	....	412	Low pine land.
Jackson	667	....	667	Do.
Jefferson	10	....	10	Do.
Lafayette	10,680	....	10,680	Low pine & swamp land
Lake	29,340	....	29,340	Low pine land
Lee	34,574	12,800	47,374	Low pine & swamp land
Leon	240	....	240	Low pine land.
Levy	5,400	....	5,400	Do.
Liberty	1,251	....	1,251	Do.
Madison	480	....	480	Do.
Manatee	4,976	....	4,976	Do.
Marion	11,626	....	11,626	Do.
Monroe	1,206	....	1,206	Low pine & swamp land
Nassau	937	....	937	Low pine land.
Orange	14,350	8,320	22,670	Do.
Osceola	5,240	2,408	7,648	Do.
Palm Beach	6,816	8,020	14,836	Flat pine land.
Pasco	760	....	760	Low pine land
Polk	16,688	....	16,688	Do.
Putnam	5,080	....	5,080	Do.
St. John	7,200	....	7,200	Do.
St. Lucie	8,844	....	8,844	Do.
Santa Rosa	8,257	....	8,257	Do.
Sumter	600	....	600	Do.
Suwannee	720	....	720	Do.
Taylor	3,080	....	3,080	Do.
Volusia	16,637	13,080	29,717	Do.
Wakulla	560	....	560	Do.
Walton	7,840	....	7,840	Do.
Washington	32,410	....	32 410	Do.
State total	391,361	61,648	453,009	

Extract of letter written by Register and Receiver:

We can give no information, generally, as to the character or value of any particular tract. Part of the lands are worthless, or of very little value; so it behooves a prospective settler to exercise care and judgment in selecting a homestead. For the most part the desirable lands are more or less remote from railroads and populous settlements.

The western and northern portions of the State are adapted to general farming, live stock and small fruits more hardy than citrus varieties; the central portion is suited to general farming, trucking where transportation facilities permit, citrus fruits and live stock; the southern portion to trucking, subject to the same limitations as to transportation, citrus and other semi-tropical fruits, and live stock, the Islands and Dade County being, generally, adapted to truck farming and fruits.

The only maps showing the public lands are our official township plats. From them on payment of $1 each we prepare maps showing vacant lands in any designated townships. If the names of settlers who have made entries are wanted also, the fee is $2.

For other information concerning the State you should write the Commisisoner of Agriculture, Tallahassee.

Very respectfully,
SHIELDS WARREN, Receiver.
HENRY S. CHUBB, Register.

APPENDIX

VOLUME 21 NUMBER 1

FLORIDA QUARTERLY BULLETIN

JANUARY 1, 1911

DEPARTMENT OF AGRICULTURE

B. E. McLIN
COMMISSIONER OF AGRICULTURE

REPORT OF THE CHEMICAL DIVISION

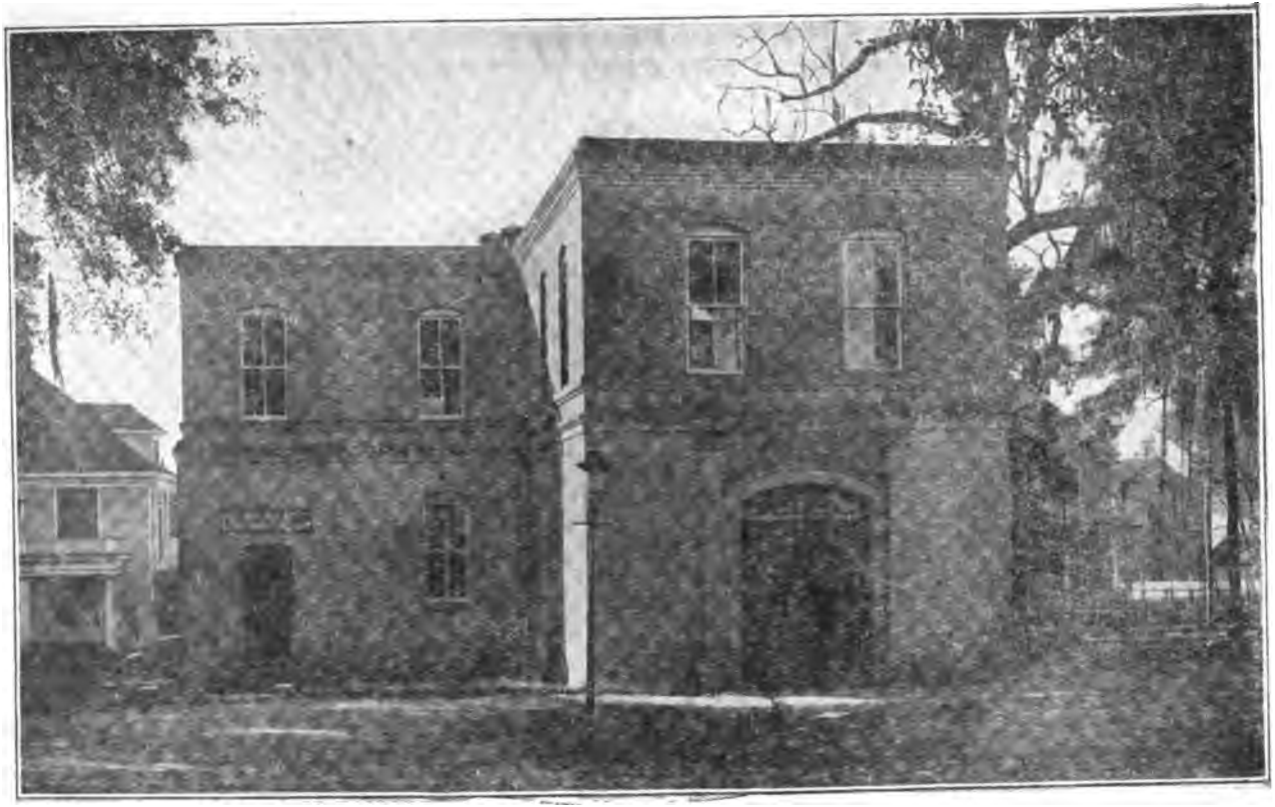
R. E. ROSE
STATE CHEMIST

Analysis of Fertilizers, Feed Stuff, Food and Drugs.
Rules and Regulations.

Entered January 31, 1903, at Tallahassee, Florida, as second-class matter, under Act of Congress of June 1900.

These Bulletins Are Issued Free to Those Requesting Them

T. J. APPLEYARD, State Printer,
Tallahassee, Fla.
1911



LABORATORY OF STATE CHEMIST AND OFFICE OF STATE GEOLOGIST, TALLAHASSEE, FLA.

STATE CHEMIST'S REPORT,

1910.

Tallahassee, Fla., January 1, 1911.

To His Excellency,
Albert W. Gilchrist, Governor,
Tallahassee, Florida.

Sir: I have the honor to submit the following report of the Chemical Division of the Agricultural Department of the State of Florida for the year ending December 31, 1910:

RECEIPTS.

The records of the office of the Agricultural Department, and report of the State Treasurer, show the sale of inspection stamps covering 172,641.84 tons of Commercial Fertilizers—

Amounting to $43,160.46

And 75,243.36 tons of Commercial Feeding Stuffs—

Amounting to 18,810.59

A total revenue of $61,971,05

paid into the State Treasury to the credit of the General Revenue Fund. From which is to be deducted the total expenses of the Chemical Division, and the expenses of the Department of Agriculture, incident to the execution of the Fertilizer, Feed Stuff, and Pure Food and Drug Laws.

EXPENDITURES OF CHEMICAL DIVISION.

Salary State Chemist	$ 2,500.00
Traveling expenses State Chemist and Assistants	495.85
Salary Fertilizer Chemist	1,800.00
Salary Food and Drug Chemist	1,800.00
Salary Food and Drug Inspector	1,500.00
Cost of samples for Food and Drug analysis	898.73
Traveling expenses, Food and Drug Inspector	
Apparatus Food Laboratory	130.44
Salary Feed Stuff Chemist	1,500.00
Salary Feed Stuff Inspector	1,500.00
Traveling expenses Feed Stuff Inspector	965.55
Chemicals and Apparatus	1,332.95
Postage	92.48
Total expenses, Chemical Division	$14,516.00
To Credit of General Revenue Fund	47,455.05
Total Receipts	$61,971.05

ANALYTICAL WORK.

The following analyses were made during the year:

Official samples fertilizers (drawn by chemist)	160
Special samples fertilizers (sent in by citizens)	377
Official samples feed stuff (drawn by inspector)	162
Special samples feed stuff (sent in by citizens)	30
Official food and drug samples (drawn by inspector)	194
Special food and drug samples (sent in by citizens)	56
Miscellaneous samples (sent in by citizens)	172
Total number analyses	1151

FERTILIZERS.

L. Heimburger, M. S., Analyst.

Of the 160 official samples analysed, 123 samples were of complete goods; 37 samples were of fertilizer materials.

The 123 samples of complete fertilizer drawn by the State Chemist had the following average composition and guarantee:

	Ammonia.	Available Phos. Acid.	Potash.
Official analysis	3.89	6.68	7.33
Guarantee	3.80	6.19	6.84
Excess above guarantee	0.09	0.49	0.49

Average State value found, per ton........$29.70
Average State value guaranteed, per ton... 28.38

EXCESS 0.20% ABOVE GUARANTEE.

We find complete fertilizers exceeding the guarantee 0.20% (twenty points), as follows:

In Ammonia	52 samples, or	42.0%
In Available Phosphoric Acid	84 samples, or	67.0%
In Potash	80 samples, or	63.0%

DEFICIENCY 0.20% BELOW GUARANTEE.

We find complete fertilizers below guarantee 0.20% (twenty points), as follows:

In Ammonia	23 samples, or	19.0%
In Available Phosphoric Acid	26 samples, or	21.0%
In Potash (K_2O)	27 samples, or	21.0%

COMMERCIAL STOCK FEED.

E. Peck Greene, B. S., Analyst.

The following analyses have been made during the year:

Official samples feed stuff	162
Special samples feed stuff	30
Total analyses	192

The average composition of the official samples was as follows:

	Protein.	Starch and Sugar.	Fats.
Official analysis	17.96	55.11	3.93
Guaranteed analysis	17.64	54.36	4.15
Excess	0.32	0.75	
Deficiency			0.22

We find the official samples of feed stuff exceeded the guarantee 0.20% (twenty points), as follows:

In Protein	66 samples, or	37.0%
In Starch and Sugar	75 samples, or	42.2%
In Fats	50 samples, or	31.1%

There was a deficiency of 0.20% (twenty points), as follows:

In Protein	34 samples, or	20.9%
In Starch and Sugar	52 samples, or	32.0%
In Fats	58 samples, or	35.8%

FOODS AND DRUGS.

A. M. Henry, B. S., Analyst.

FOODS.		
Official food samples	74	
Special food samples	53	
Total food samples	127—	127
Official samples adulterated	3	
Official samples adulterated and misbranded	1	
Official samples legal	70	
Total official food samples	74	
DRUGS.		
Official drug samples	120	
Special drug samples	3	
Total drug samples	123—	123
Official samples adulterated	39	
Official samples misbranded	27	
Official samples adulterated and misbranded	26	
Official samples legal	28	
Total official drug samples	120	
Total analyses foods and drugs		250

Those samples found adulterated or misbranded have been reported to the proper officer. In all cases the dealers and manufacturers have corrected the labels by placing the proper labels on the goods or by withdrawing the offending materials from the market.

A number of prosecutions for misbranding have been had, and in a number of cases the parties have been found guilty and punished by fine. These prosecutions, however, are not part of the duty of the Chemical Division, but come under the jurisdiction of the various courts. The evidence of adulteration or misbranding only being furnished by the Chemical Division.

FERTILIZERS.

Examination of the foregoing averages of the "guaranteed analyses" of the samples drawn throughout the State by the State Chemist, and the results of the "official analyses" of the same, together with a study of the tables of analyses following, will show that there has been a steady improvement of the uniformity of the mixing and preparation of the various brands sold in the State; that there has been but few deficiencies in any of the materials guaranteed; that the manufacturer has, by improved machinery, careful weighing and skillful manipulation, furnished a more uniform and exact fertilizer—generally slightly above the guarantee in all three essential elements.

It will be noted that owing to the material improvement in manufacture, that the goods sold during 1910 have been more generally uniform, with fewer excesses or deficiencies in composition; that the average excess in ammonia of 0.22 in 1909 has fallen to 0.09 in 1910; that the excess in potash of 0.55 in 1909 has fallen to 0.49 in 1910; that the excess in available phosphoric acid of 0.90 in 1909 has fallen to 0.49 in 1910; while the deficiencies (twenty points below guarantee) has materially lessened, showing a more careful and thorough preparation of fertilizers by the manufacturers, better machinery and more skillful technical work.

Most of the manufacturers of the State now employ a chemist, and their factories and output are under strict chemical and technical control.

HIGH-GRADE FERTILIZERS USED IN FLORIDA.

Acreage under culture considered, Florida consumes more commercial fertilizer than any of her sister States, while she also uses the highest grades known to the trade. Her orange and pineapple growers, her truck farmers and fruit growers, are probably the most competent and exacting consumers of fertilizer in the world—men fully capable of knowing what they require for the best results; and while demanding high-grade goods, made of such materials as they specify, are willing to pay for the same, but will not tolerate substitution or deficiency.

This fact demonstrates the correctness of the position assumed in previous reports that high-grade goods, though costing more per ton, are in fact more economical. The freights and other charges on "fillers" are costly, while the unit values of high-grade goods are less than those of low grades.

SPECIAL SAMPLES.

In this connection the "special sample"—peculiar to the Florida law—has proved its value to both the consumer and the manufacturer. Much of the uniformity and high quality of the goods sold throughout the State can be attributed to the "special sample"—sent in by the purchaser, and analysed by the State without charge—thus proving the wisdom of the Legislature in providing this simple and direct method of obtaining quickly an exact knowledge of the true value, commercially and agriculturally, of the goods sold.

A careful study of the "official analyses," and an intelligent use of the "special sample," is again commended to the consumers of commercial fertilizers in the State.

Special attention is called to the law and regulations governing the drawing and transmitting special samples of fertilizer and feed stuff.

SYNONYMS AND LOCALISMS.

Heretofore I have called attention to the costly prejudice in favor of Dissolved Bone or Dissolved Bone Black, as against Dissolved Florida or other rock phosphates. Dissolved Bone, Dissolved Bone Black and Dissolved Rock Phosphate are identical chemically and agriculturally. I do not allude to Raw Bones, or Raw Bone Meal, but to the dissolved materials.

Bones, or Rock Phosphates, dissolved in Sulphuric Acid, produce the same substance properly called "super-phosphate," a combination of Sulphuric Acid and Sulphate of Lime—(Gypsum or Land Plaster). Super-phosphates, made either from Bones or Rock Phosphate, is identical in fertilizing value. This subject has been discussed fully in previous reports and in various quarterly Bulletins.

This prejudice annually costs our consumers large sums. Thousands of tons of "Dissolved Bone," "Dissolved Bone Black" or "Bone and Potash," are sold annually, in which no bones are used.

Long usage probably justifies these trade names, "Dissolved Bone" for acid phosphate (super-phosphate), or "Bone and Potash" for acid phosphate and kainit, while the term "Guano" is used for any complete (ammonited) cotton goods—though no "guano" enters into its composition.

TANKAGE.

Tankage is the refuse of slaughter houses, cooked by steam in tanks under pressure, generally with the addition of sulphuric acid to dissolve the albuminoids, converting them into sulphate of ammonia—one of the most valuable ammoniates known to the trade.

"Garbage tankage," the refuse of the kitchens of our cities, is treated in the same manner and yields a low-grade tankage, 3 to 4 per cent. ammonia; its quality depends much upon the season when gathered — summer garbage, on account of the larger proportion of vegetable matter, being of less value than winter garbage.

Tankage is graded according to its ammonia content, which runs from 3 per cent. to 10 per cent., depending on its source. It is generally sold in Florida as "Blood and Bone," a misnomer, as tankage is not blood and bone, though it may contain more or less blood and some bone.

The ammonia in tankage is largely in the form of sulphate, white raw bone, or pure blood, contains little if any sulphate.

When the term "tankage" is used as a source of ammonia, the inference would be that part, if not the most, of the ammonia was a sulphate. While the term "Blood and Bone" would suggest organic nitrogen only. The term "Blood and Bone" is unknown to the trade, except in Florida, and there means tankage. Tankage is not "Blood and Bone," and its nitrogen is not—similar to that of Raw Bone, or Blood.

In Steamed Bone, the nitrogen is also, generally, largely in the form of sulphate of ammonia, as sulphuric acid is used for exactly the same purpose as it is in tankage, to dissolve and disintegrate the albuminoids—gristle and ligaments—and assist in freeing the bones of fat and flesh.

These subjects have been discussed frequently in various Bulletins and Reports of this and other States, and of the United States Department of Agriculture, and by various trade journals, notably the "American Fertilizer."

The Florida trade — manufacturers, dealers and consumers—should confine themselves to the accepted trade names of the various materials used; while consumers should specify exactly what they desire in their mixtures, and hold the manufacturer responsible under the law for any substitution. With a perfect understanding, no confusion arises. An exact definition of terms is required for intelligent discussion of any subject.

Leather, Hair and Wool Waste.

The Florida law prohibits the sale of "any pulverized leather, hair or wool waste, raw, steamed, roasted or in any form as fertilizer, or as an ingredient of any fertilizer or manure, without a printed certificate of the fact; said certificate shall be conspicuously affixed to every package of fertilizer or manure." This is a good law, and has prevented the sale of much unavailable nitrogen (or ammonia) in the State. However, when these waste materials are dissolved in sulphuric acid, they are no longer leather, hair or wool waste, but a mixture of sulphate of ammonia and humus, both valuable applications to hungry soils. In fact, the source of some of our most popular and expensive Florida fertilizers — particularly orange tree and vegetable fertilizers—is largely from properly dissolved (decomposed) factory waste, consisting largely of these enumerated materials.

ORGANIC AMMONIATES.

One of the most serious problems at present is an adequate supply of Organic Ammoniates (as distinguished from the salts of ammonia and nitrogen). This shortage is caused by the use of animal and vegetable refuse in preparing fertilizers, by converting the fixed (unavailable) nitrogen into sulphate of ammonia, and by the increased use of cotton seed meal, linseed meal and similar by-products for stock feed. All such waste materials should be used, as fertilizers are very largely composed of the waste of our homes, kitchens, stables, cities, gas works, slaughter houses, fisheries, cotton seed and linseed oil factories, etc.

PEAT OR MUCK.

There has been recently much discussion as to the availability of the nitrogen of peat as a fertilizer. Raw peat, like leather, is practically inert and of little value. When properly decomposed, either by sulphuric acid or by thorough oxidation (rotting), or by composting with superphosphate and sulphate of potash, peat becomes a valuable fertilizer, as is evidenced by various practical demonstrations.

The nitrogen of raw, sour, undrained peat or muck is not available, nor if it be simply dried and ground; it must be decomposed, and its nitrogen made available by chemical (or bacterial) action. This can be most economically accomplished by drainage, to allow the air to enter and oxidize (rot) the material, or by composting the raw muck with super-phosphate (acid phosphate) and sulphate of potash, and allowing it to decompose.

MUCK LANDS.

The vast beds of muck, or peat, in Florida contain from 1 to 3 per cent. of nitrogen, when properly and thoroughly drained and treated with super-phosphate and potash—in which they are deficient—they will become the most fertile and productive soils of this or any other State or country. This fertility will depend, to a large degree, upon the availability of their stored-up nitrogen, which can be made available only by decomposition (rotting), which can only be accomplished by thorough drainage and aeration (oxidation). When thoroughly drained (decomposed and oxidized), these muck lands are wonderfully productive. If not thoroughly drained, they are not suitable for general agriculture.

The application of super-phosphates—and potash—in which elements these lands are deficient—to thoroughly drained muck lands, will produce maximum crops of all kinds suitable to the climate.

COMMERCIAL FEED STUFFS.

There has been a slight increase in the average value of commercial feed stuff sold in the State, the average excess above guarantee in protein has increased, while fats and "soluble carbohydrates" (starches and sugars) has slightly decreased; the percentage of deficiencies has notably decreased. The same statements as to the value of the "special sample" applies to feed stuff as to fertilizers. As much depends on the consumer to correct abuses in feed stuff as does upon the consumer of fertilizers. The live stock of the State should be as carefully protected in their foods as are the fruit and other crops. The same intelligent purchase of feed stuff that is now applied to fertilizers by consumers will result in placing our feed stuff on the same high plane as our fertilizers.

FLORIDA FEED STUFFS.

Attention is called to the analysis of Florida-grown feed stuffs, as compared to that imported into the State, particularly to "beggar weed," "cow peas," "velvet beans" and "Japanese kudzu." These analyses show that these plants produce hays equal in value to the average mixed feeds imported, and superior to most of the imported materials. They are superior to bran, middlings or oats, and far superior to the average of the imported feeds.

They surpass alfalfa or clover in their feeding value. They are peculiar to our soil and climate, their cost of culture and curing is not greater than to cultivate and cure clover or alfalfa. Their more general culture would save the State many thousands of dollars, now sent to Northern States for stock feeds, and provide the Florida stockman and dairyman with an equally valuable, or superior, leguminous (proteid) feed at far less cost, at the same time fertilizing his fields and increasing the value of his other crops. The State purchased during the year 1910 75,243.36 tons of mixed stock feed—to say nothing of the hays and grains imported—averaging $32.00 per ton, representing $2,407,787.52, all of which should have been produced on her own farms, saving to our farmers not only this large sum, but adding to the fertility of her farms practically the same amount in increased fertility and productiveness. No State in the Union—and I say it advisedly—has a greater variety of economically grown legumes, or longer list of meadow and pasture grasses, furnishing the necessary carbohydrates, than has Florida, with velvet beans, beggar weed, cow peas and kudzu as legumes; Bermuda, crab grass, Natal grass, Para grass and Japanese sugar cane, have no superior for pasture and meadow.

Japanese sugar cane produces a superior cattle or hog feed, rich in sugar, carbohydrates — fat formers. It is wonderfully productive; twenty tons per acre are by no means unusual. When once established it will continue to grow for years, being practically a perennial in this State.

Florida's soil and climate, her abundant rainfall, her lakes and streams, artesian waters, her short, mild winters, her abundant native grasses and legumes, make stock raising peculiarly attractive to the farmer and investor.

Her drained lands and flat woods are peculiarly adapted to successful cattle growing, as is evidenced by the large herds now profitably grown on the drained lands of the Central Peninsula.

It is notable that during the past few years large quantities of hay and other forage crops have been produced in the State; that the mowing machine and hay press, unknown "before the freeze," are being rapidly introduced throughout the State; that pure-bred cattle and hogs are being successfully grown, and that her dairies, though still few in number, are producing butter equal to that produced in any part of the Union, at a cost less than the average cost of production in the Western dairy States. The supply by no means equals the demand at the highest market prices.

FOODS AND DRUGS.

It will be noted that but four cases of adulteration or misbranding have occurred in foods officially sampled, showing that the law is becoming better understood and complied with.

In the case of drugs, 39 samples were adulterated, 27 misbranded and 26 both adulterated and misbranded, while 28 were found legal.

In a number of cases the misbranding was the neglect to state the percentage of alcohol on the label or other article enumerated in Section 5 of the law, while in a number of cases the adulteration consisted of an excess of the active drug in the preparation.

It will be noted that during the latter part of the year these misbrandings and adulterations were less in evidence, manufacturers and dealers having been notified of their illegal labels and lack of care in properly proportioning their materials, have generally complied with the law and made their goods to conform to the standards fixed by law, and to state the percentages or amounts of the materials required to be stated on the labels.

PURE FOOD AND DRUG LAW.

There are several obscure, and possibly contradictory, features of the Pure Food and Drug Law as enacted. Amendments, by elimination of these portions of the law, would materially strengthen it, make it clearer and positive where it is now ambiguous.

SO-CALLED NEAR-BEER.

A number of analyses of these various fermented liquors, generally guaranteed to contain less than 2 per cent. alcohol, and represented as non-intoxicating, have been made for Sheriffs and prosecuting officers of the

State. Several convictions have been had and penalties of fine and imprisonment imposed.

The analyses of these materials show them to be very inferior beers, with generally a larger percentage of alcohol than in standard beer, 4 to 5 per cent. or more.

ATTENDANCE UPON COURTS.

Much of the time of the State Chemist, and Assistant State Chemists, has been unnecessarily devoted to attendance upon courts to testify as to chemical determinations. The law provides that "The certificate of analysis of the State Chemist, or his assistant, when properly verified by the State Chemist, or his assistant, shall be *prima facie* evidence in any court of law or equity in this State." This provision was intended to prevent the expense and loss of time involved in attendance upon court by the chemists of the State Department of Agriculture. The courts very properly confine the chemists' testimony to the facts of the analysis, as stated in the certificate and affidavit. The Chemist, or his assistants, are not aware of any of the facts surrounding the case; hence, they are only competent to certify as to the results of the analysis of the particular sample, which facts are fully set out in the certificate and affidavit.

Some means should be provided to prevent this unnecessary loss of time and the expenses involved in unnecessary and useless attendance upon courts in such cases.

INSPECTORS.

Active, efficient and frequent inspection of the various factories, warehouses, railroad stations, local warehouses and dealers' stocks of goods is imperative for the proper administration of the fertilizer, feed stuff and pure food and drug laws.

More depends upon the inspectors' vigilance to detect frauds, correct evils and protect the revenues of the State than upon any other branch of the service. This particularly applies to the larger cities of the State, the distributing points of most of the goods sold throughout the State, where are located the factories, warehouses and depots from which the fertilizers, feeds, foods and drugs are distributed to the retail merchant and the consumer, who depend upon the manufacturer, jobber and wholesaler for the quality, purity and legality of his goods, the truthfulness of the brand or label.

I again call attention to the present crude, cumbersome and comparatively expensive system of inspection. Our inspectors are active, diligent and competent, and under our present system are doing all that can be expected of them to enforce the law and protect the State and her citizens from imposition and fraud.

The field is broad, however—the largest State east of the Mississippi River, with the longest distances by rail between her principal distributing points.

It is physically impossible for each inspector to efficiently and economically cover the entire State.

The present system of one inspector for each division—fertilizers, feeds, and foods and drugs—is cumbersome and expensive.

Each inspector of the Chemical Division should be competent and have the authority to inspect any or all of the articles subject to inspection, not being confined to one particular class of goods, as is now the case, making it necessary for three inspectors to visit any given point in order to properly inspect the goods sold.

The inspectors should have authority to at once seize and place in the hands of the Sheriff anything that is obviously misbranded or adulterated, filthy or decomposed, sending samples to this office for confirmation of their decisions as to its illegality. The reasons for this authority are obvious.

I respectfully call your attention to the suggestions and recommendations of my report for 1909, as follows:

SUGGESTIONS AND RECOMMENDATIONS.

Inspectors—At present there are two inspectors employed, one for feed stuff, one for foods and drugs. The State Chemist is the only inspector of fertilizers.

I would suggest that not less than three inspectors be employed, each to have authority to draw samples of all goods subject to inspection—that is, fertilizers, foods and drugs, and feeds; having authority to seize any material misbranded or that fails to bear the proper inspection stamp. That one of these inspectors be located at each large city — Pensacola, Jacksonville, and Tampa — and have charge each of a Congressional District, subject to orders of the Commissioner of Agriculture, and at his direction be detailed to any part of the State if necessary; that the State Chemist have, as now, the general supervision of the inspection of goods throughout the State, in order to frequently consult, assist and direct the inspectors in their work.

STANDARDS.

It is evident that standards should be fixed by law for mixed feeds, and for certain by-products of factories used for feed, to prevent the sale of materials below the average of such goods, though properly guaranteed. A number of States have adopted such standards, fixing the minimum of the valuable ingredients in mixed feed stuff permissible in feeds sold in the State. Florida should fix similar standards, as without them foods not saleable in other States can be sold in Florida, though truthfully labeled they are not standard foods, and should not be sold as concentrated feed stuff.

Very respectfully,

R. E. Rose, State Chemist.

SPECIAL SAMPLES.

Florida is the only State in the Union that provides for the "special sample," drawn by the consumer or purchaser, under proper rules and regulations fixed by law—to be sent to the State Laboratory for analysis free of cost. Any citizen in the State who has purchased fertilizers or feeds for his own use may draw a sample of the same, according to law, and have the same analysed by the State Chemist free of cost. And in case of adulteration or deficiency he can, on establishing the fact, receive double the cost of price demanded for the goods.

The law requires the "special samples" to be drawn in a manner to prevent the submission of spurious samples; rules and regulations are published in every Bulletin for drawing and transmitting "special samples."

This special sample has been a most potent factor in enforcing the law and discouraging the sale of adulterated or misbranded goods.

Special samples of foods and drugs may also be sent to the State Laboratory for analysis free of cost, when the sample is properly drawn according to law. The necessary instructions and blanks required to properly draw and transmit samples of "food and drugs" will be sent to any citizen requesting the same.

"THE SPECIAL SAMPLE FURNISHES THE CONSUMER WITH THE SAME PROTECTION DEMANDED BY THE MANUFACTURER, WHO BUYS HIS MATERIALS ONLY UPON GUARANTEE AND PAYS FOR THEM ACCORDING TO ANALYSIS, AND IS PAID FOR BY THE CONSUMER OUT OF THE FUNDS DERIVED FROM THE INSPECTION FEE OF TWENTY-FIVE CENTS PER TON PAID ON FERTILIZERS AND FEEDS SOLD IN THE STATE."

REGULATIONS GOVERNING THE TAKING AND FORWARDING OF FERTILIZER OR COMMERCIAL FEEDING STUFF SAMPLES TO THE COMMISSIONER OF AGRICULTURE.

SECTION 15 OF THE LAWS.

Special samples of Fertilizers or Commercial Feeding Stuffs sent in by purchasers, under Section 9 of the laws. shall be drawn in the presence of two disinterested witnesses, from one or more packages, thoroughly mixed, and A FAIR SAMPLE OF THE SAME OF NOT LESS THAN EIGHT OUNCES (ONE-HALF POUND) SHALL BE PLACED IN A CAN OR BOTTLE, SEALED AND SENT BY A DISINTERESTED PARTY TO THE COMMISSIONER OF AGRICULTURE AT TALLAHASSEE. NOT LESS THAN EIGHT OUNCES, IN A TIN CAN OR BOTTLE, WILL BE ACCEPTED FOR ANALYSIS. This rule is adopted to secure fair samples of sufficient size to make the necessary determinations and to allow the preservation of a duplicate sample in case of protest or appeal. This duplicate sample will be preserved for two months from the date of certificate of analysis.

The State Chemist is not the proper officer to receive special samples from the purchaser. The propriety of the method of drawing and sending the samples as fixed by law is obvious.

The drawing and sending of special samples in rare cases is in compliance with law. Samples are frequently sent in paper packages or paper boxes, badly packed, and frequently in very small quantity (less than ounce); frequently there are no marks, numbers or other means of identification; the postmark in some instances being absent.

I would call the attention of those who desire to avail themselves of this privilege to Sections 9 and 10 of the law, which are clear and explicit.

Hereafter, strict compliance with above regulations will be required. *The sample must not be less than one-half pound, in a can or bottle, sealed and addressed to the Commissioner of Agriculture. The sender's name and address must also be on the package, this rule applying to special samples of fertilizers or commercial feeding stuff.*

A one-pound baking powder can, properly cleaned, filled with a fairly drawn, well mixed sample taken from several sacks, is a proper sample. *It should be sealed and addressed to the Commissioner of Agriculture at Tallahassee. The sender's name and address should also be placed on the package. If more than one sample is sent, the samples should be numbered so as to identify them. All this should be done in the presence of the witnesses and the package mailed or expressed by one of the witnesses.*

The tags off the sacks should be retained by the sender to compare with the certificate of analysis when received, and not sent to this office. *The date of the drawing and sending of the sample, and names of the witnesses, should also be retained by the sender; not sent to this office.*

INSTRUCTIONS TO MANUFACTURERS AND DEALERS.

Each package of Commercial Fertilizer, and each package of Commercial Feeding Stuff, must have, securely attached thereto, a tag with the guaranteed analysis required by law and the stamp showing the payment of the inspector's fee. This provision of the law, Section 3 of both laws—will be rigidly enforced.

Manufacturers and dealers will be required to properly tag and stamp each package of Commercial Fertilizer or Commercial Feeding Stuff under penalty as fixed in Section 6 of both laws. Tags shall be attached to the top end of each bag, or head of each barrel.

INSTRUCTIONS TO PURCHASERS.

Purchasers are cautioned to purchase no Commercial Fertilizers or Commercial Feeding Stuff that does not bear on *each package* an analysis tag with the guarantee required by law, and the stamp showing the payment of the inspector's fee. Goods not having the guarantee tag and stamp are irregular and fraudulent; the absence of the guarantee and stamp being evidence that the manufacturer or dealer has not complied with the law. Without the guarantee tag and stamp showing what the goods are guaranteed to contain, the purchaser has no recourse against the manufacturer or dealer. Such goods are sold illegally and fraudulently, and are generally of little value. All reputable manufacturers and dealers now comply strictly with the law and regulations by placing the guarantee tag and stamp on each package.

INSTRUCTIONS TO SHERIFFS.

The attention of Sheriffs of the various counties is called to Section 3 of both laws, defining their duties. This Department expects each Sheriff to assist in maintaining the law and protecting the citizens of the State from the imposition of fraudulent, inferior or deficient Commercial Fertilizers or Commercial Feeding Stuffs.

MARKET PRICES OF CHEMICALS AND FERTILIZING MATERIALS AT FLORIDA SEA PORTS, JANUARY 1, 1911.

AMMONIATES.

	Less than ten tons.
Nitrate of Soda, 17 to 19 % Ammonia	$ 52.00
Sulphate of Ammonia, 25 to 26% Ammonia	70.00
Dried Blood, 16 to 19% Ammonia	67.00
Cynanamid, 12½ to 13½% Ammonia	46.00
Dry Fish Scrap, 11% Ammonia	57.00

POTASHES.

High Grade Sulphate of Potash, 90 to 95% Sulphate, 48 to 50% K_2O	$ 56.00
Low grade Sulphate of Potash, 48 to 53% Sulphate, 26 to 28% K_2O	32.00
Muriate of Potash, 80 to 85%, 48 to 50% K_2O	50.00
Nitrate of Potash, imported, 15% Ammonia, 44% potash K_2O	94.00
Nitrate of Potash, American, 13% Ammonia, 42% potash K_2O	84.00
Kainit, 12 to 13% Potash, 12% K_2O	15.00
Canada Hardwood Ashes, in bags, 4 to 6% K_2O Potash	19.00

AMMONIA AND PHOSPHORIC ACID.

High Grade Tankage, 10% Ammonia, 5½ to 7% Phosphoric Acid	$ 44.00
Tankage, 8 to 9% Ammonia, 10 to 11% Phosphoric Acid	40.00
Low Grade Tankage, 6½ to 8% Ammonia, 12 to 14% Phosphoric Acid	37.00
Hotel Tankage, 6 to 7% Ammonia, 7 to 8% Phosphoric Acid	25.00
Sheep Manure, ground, 3 to 4% Ammonia	24.00

Imported Fish Guano, 10% Ammonia, 10% Phosphoric Acid	45.00
Pure Fine Steamed Ground Bone, 3 to 4% Ammonia, 22 to 25% Phosphoric Acid	29.00
Raw Bone, 4 to 5% Ammonia, 22 to 25% Phosphoric Acid	34.00
Ground Castor Pomace, 5½% Ammonia, 2 to 6% Phosphoric Acid	25.00
Bright Cotton Seed Meal, 7½ to 8% Ammonia	31.00
Dark Cotton Seed Meal, 5 to 7% Ammonia	27.00

PHOSPHORIC ACID.

High Grade Acid Phosphate, 16% Available Phosphoric Acid	$ 15.00
Acid Phosphate, 14% Available Phosphoric Acid	14.00
Bone Black, 17 to 18% Available Phosphoric Acid	25.00

MISCELLANEOUS.

High Grade Ground Tobacco Stems, 2 to 2½% Ammonia, 8 to 10% Potash	$ 22.00
High Grade Ground Kentucky Tobacco Stems, 2½ to 3% Ammonia, 10 to 11% Potash	25.00
Tobacco Dust No. 1, 2 to 3% Ammonia, 2 to 3% Potash	25.00
Cut Tobacco Stems, in sacks, 2 to 2½% Ammonia, 4 to 5% Potash	20.00
Dark Tobacco Stems, baled, 2 to 2½% Ammonia, 4 to 5% Potash	19.00
Land Plaster, in sacks	12.00

The charges by reputable manufacturers for mixing and bagging any special or regular formula are $1.50 per ton in excess of above prices.

NEW YORK WHOLESALE PRICES, CURRENT JAN. 1, 1911—FERTILIZER MATERIALS.

AMMONIATES.

Ammonia, sulphate, foreign, prompt	$2.85	@	$2.92½
futures	2.87½	@	2.90
Ammonia, sulphate, domestic, spot	—	@	—
futures	2.95	@	2.97½
Fish Scrap, dried, 11% ammonia and 14% bone phosphate, f. o. b. fish-works, per unit	—	@	—
wet, acidulated, 6% ammonia and 3% phosphoric acid, f. o. b. fish-works	2.50	&	35
Ground Fish Guano, imported, 10 and 11% ammonia and 15 and 17% bone phosphate, c. i. f. New York, Baltimore or Philadelphia	3.55	@	3.65&10
Tankage, 11% and 15%, f. o. b. Chicago, basis October	2.95	&	10
Tankage, 10% and 20%, f. o. b. Chicago, ground, basis October	2.95	&	10
Tankage, 9% and 20%, f. o. b. Chicago, ground	—	@	—
Tankage, concentrated, f. o. b. Chicago, 14 to 15%, f. o. b. Chicago	2.80	@	—
Garbage, tankage, f. o. b. Chicago	9.00	@	—
Sheep Manure, concentrated, f. o. b. Chicago, per ton	10.00	@	—
Hoofmeal, f. o. b. Chicago, per unit	—	@	—
Dried Blood, 12 to 13% ammonia, f. o. b. New York	3.30	@	3.35
Chicago, basis October	3.17½	@	—
Nitrate of Soda, 95%, spot, per 100 lbs.	2.12½	@	2.15
futures, 95%	2.12½	@	2.15

PHOSPHATES.

Acid Phosphate, per unit	$ .62	@$	.65
Bones, rough, hard, per ton	21.00	@	22.00
soft, steamed, unground	21.50	@	22.00
ground, steamed, 1¼% ammonia and 60% bone phosphate	22.50	@	21.50
ditto, 3 and 50%	22.50	@	23.00
raw ground, 4% ammonia and 50% bone phosphate	26.50	@	27.50
South Carolina Phosphate Rock, kiln-dried, f. o. b. Ashley River	3.50	@	3.75
Florida Land Pebble Phosphate Rock, 68%, f. o. b. Port Tampa, Fla	3.75	@	4.00
Florida High Grade Phosphate Hard Rock, 77%, f. o. b. Florida ports	5.50	@	6.00
Tennessee Phosphate Rock, f. o. b. Mt. Pleasant, domestic, per ton, 78-80%	5.00	@	5.50
75% guaranteed	4.75	@	5.00
68-72%	4.25	@	4.50

POTASHES.

Muriate of Potash, 80-85%, basis 80%, in bags	$35.75	@	—
Muriate of Potash, min. 95%, basis 80%, in bags	37.25	@	—
Muriate of Potash, min. 98%, basis 80%, in bags	38.00	@	—
Sulphate of Potash, 90-95%, basis 90%, in bags	43.50	@	—
Double Manure Salt, 48-53%, basis 48%, in bags	22.75	@	—
Manure Salt, min. 20%, K_2O, in bulk	12.25	@	—
Hardsalt, min. 16%, K_2O, in bulk	9.70	@	—
Kainit, min. 12.4%, K_2O, in bulk	7.50	@	—

STATE VALUATIONS

For Available and Insoluble Phosphoric Acid, Ammonia and Potash, for the Season of 1911.

Available Phosphoric Acid	5c. a pound
Insoluble Phosphoric Acid	1c. a pound
Ammonia (or its equivalent in nitrogen)	17½c. a pound
Potash (as actual potash, K_2O)	5½c. a pound

If calculated by units—

Available Phosphoric Acid	$1.00 per unit
Insoluble Phosphoric Acid	20 c. per unit
Ammonia (or its equivalent in nitrogen)	3.50 per unit
Potash	1.10 per unit

With a uniform allowance of $1.50 per ton for mixing and bagging.

A unit is twenty pounds, or 1 per cent., in a ton. We find this to be the easiest and quickest method for calculating the value of fertilizer. To illustrate this, take for example a fertilizer which analyzes as follows:

Available Phosphoric Acid	6.22 per cent.x	$1.00—	$ 6.22
Insoluble Phosphoric Acid	1.50 per cent.x	.20—	.30
Ammonia	3.42 per cent.x	3.50—	11.97
Potash	7.23 per cent.x	1.10—	7.95
Mixing and Bagging		—	1.50
Commercial value at sea ports			$27.94

Or a fertilizer analyzing as follows:

Available Phosphoric Acid	8 per cent.x	$1.00—	$ 8.00
Ammonia	2 per cent.x	3.50—	7.00
Potash	2 per cent.x	1.10—	2.20
Mixing and Bagging		—	1.50
Commercial value at sea ports			$18.70

The above valuations are for cash for materials delivered at Florida seaports, and they can be bought in one-ton lots at these prices at the date of issuing this Bulletin. Where fertilizers are bought at interior points, the additional freight to that point must be added.

If purchased in carload lots for cash, a reduction of ten per cent. can be made in above valuations, *i. e.*:

Available Phosphoric Acid	90 cents	per unit
Potash (K_2O)	99 cents	per unit
Ammonia (or equivalent in nitrogen)..	$3.15	per unit

The valuations and market prices in preceding illustrations are based on market prices for one-ton lots.

STATE VALUES.

It is not intended by the "State valuation" to fix the price or commercial value of a given brand. The "State values" are the market prices for the various approved chemicals and materials used in mixing or manufacturing commercial fertilizers or commercial stock feed at the date of issuing a Bulletin, or the opening of the *"season."* They may, but seldom do, vary from the market prices, and are made liberal to meet any slight advance or decline.

They are compiled from price lists and commercial reports by reputable dealers and journals.

The question is frequently asked: "What is 'Smith's Fruit and Vine' worth per ton?" Such a question cannot be answered categorically. By analysis, the ammonia, available phosphoric acid and potash may be determined, and the inquirer informed what the cost of the necessary material to compound a ton of goods similar to "Smith's Fruit and Vine" would be, using none but accepted and well known materials of the best quality.

State values do not consider "trade secrets," loss on bad bills, cost of advertisements and expenses of collections. The "State value" is simply that price at which the various ingredients necessary to use in compounding a fertilizer, or feed, can be *purchased for cash in ton lots at Florida seaports.*

These price lists are published in this report, with the "State values" for 1911 deducted therefrom.

COMPOSITION OF FERTILIZER MATERIALS.

NITROGENOUS MATERIALS.

	POUNDS PER HUNDRED		
	Ammonia	Phosphoric Acid	Potash
Nitrate of Soda	17 to 19	....	....
Sulphate of Ammonia	21 to 24	....	....
Dried Blood	12 to 17	....	....
Concentrated Tankage	12 to 15	1 to 2	....
Bone Tankage	6 to 9	10 to 15	....
Dried Fish Scrap	8 to 11	6 to 8	....
Cotton Seed Meal	7 to 10	2 to 3	1½ to 2
Hoof Meal	13 to 17	1½ to 2	....

PHOSPHATE MATERIALS.

	POUNDS PER HUNDRED		
	Ammonia	Available Phos. Acid	Insoluble Phosphoric Acid
Florida Pebble Phosphate	....	....	26 to 32
Florida Rock Phosphate	....	....	33 to 35
Florida Super Phosphate	....	14 to 45	1 to 35
Ground Bone	3 to 6	5 to 8	15 to 17
Steamed Bone	3 to 4	6 to 9	10 to 20
Dissolved Bone	2 to 4	13 to 15	2 to 3

POTASH MATERIALS AND FARM MANURES.

	POUNDS PER HUNDRED			
	Actual Potash	Ammonia	Phosphoric Acid	Lime
Muriate of Potash	50	....	....	....
Sulphate of Potash	48 to 52	....	....	....
Carbonate of Potash	55 to 60	....	....	....
Nitrate of Potash	40 to 44	12 to 16	....	....
Double Sul. of Pot. & Mag.	26 to 30	....	....	....
Kainit	12 to 12½	....	....	....
Sylvinit	16 to 20	....	....	....
Cotton Seed Hull Ashes	15 to 30	....	7 to 9	10
Wood Ashes, unleached	2 to 8	....	1 to 2	....
Wood Ashes, leached	1 to 2	....	1 to 1½	35 to 40
Tobacco Stems	5 to 8	2 to 4	....	3½
Cow Manure (fresh)	0.40	0 to 0.41	0.16	0.31
Horse Manure (fresh)	0.53	0 to 0.60	0.28	0.31
Sheep Manure (fresh)	0.67	1.00	0.23	0.33
Hog Manure (fresh)	0.60	0.55	0.19	0.08
Hen Dung (fresh)	0.85	2.07	1.54	0.24
Mixed Stable Manure	0.63	0.76	0.26	0.70

FACTORS FOR CONVERSION.

To convert—

Ammonia into nitrogen, multiply by............	0.824
Ammonia into protein, multiply by.............	5.15
Nitrogen into ammonia, multiply by.............	1.214
Nitrate of soda into nitrogen, multiply by.........	0.1647
Nitrogen into protein, multiply by..............	6.25
Bone phosphate into phosphoric acid, multiply by	0.458
Phosphoric acid into bone phosphate, multiply by	2.184
Muriate of potash into actual potash, multiply by	0.632
Actual potash into muriate of potash, multiply by	1.583
Sulphate of potash into actual potash, multiply by	0.541
Actual potash into sulphate of potash, multiply by	1.85
Nitrate of potash into notrogen, multiply by.....	0.139
Carbonate of potash into actual potash,multiply by	0.681
Actual potash into carbonate of potash,multiply by	1.466
Chlorine, in "kainit," multiply potash (K_2O) by..	2.33

For instance, you buy 95 per cent. of nitrate of soda and want to know how much nitrogen is in it, multiply 95 per cent. by 0.1647, you will get 15.65 per cent. nitrogen; you want to know how much ammonia this nitrogen is equivalent to, then multiply 15.65 per cent. by 1.214 and you get 18.99 per cent., the equivalent in ammonia.

Or, to convert 90 per cent. carbonate of potash into actual potash (K_2O), multiply 90 by 0.681, equals 61.29 per cent. actual potash (K_2O).

COPIES OF THE FERTILIZER AND STOCK FEED LAWS.

Citizens interested in the fertilizer and stock feed laws of the State, and desiring to avail themselves of their protection, can obtain copies free of charge by sending for same to the Commissioner of Agriculture.

COPIES OF THE PURE FOOD AND DRUG LAW.

Copies of the Pure Food and Drug Law, rules and regulations, standards, blanks, etc., can be obtained from the Commissioner of Agriculture.

AVERAGE COMPOSITION OF COMMERCIAL FEED STUFFS.

NAME OF FEED.	Crude Fiber.	Protein.	Starch and Sugar.	Fat.	Ash.
Bright Cot'n Seed Meal	9.35	39.70	28.60	7.80	5.80
Dark Cotton Seed Meal	20.00	22.90	37.10	5.50	5.00
Linseed Meal, old process	7.50	35.70	36.00	7.20	5.30
Linseed Meal, new process	8.40	36.10	36.70	3.60	5.20
Wheat Bran	9.00	15.40	53.90	4.00	5.80
Wheat Middlings	5.40	15.40	59.40	4.10	3.20
Mixed Feed (Wheat)..	7.80	16.90	54.40	4.80	5.30
Ship Stuff (Wheat)...	5.60	14.60	59.80	5.00	3.70
Corn (grain)	2.10	10.50	69.60	5.40	1.50
Corn Meal	1.90	9.70	68.70	3.80	1.40
Corn Cobs	30.10	2.40	54.90	0.50	1.40
Corn and Cob Meal....	6.60	8.50	64.80	3.50	1.50
Hominy Feed	4.05	10.50	65.30	7.85	2.55
Corn and Oats, equal parts	5.70	10.50	64.20	4.40	2.20
Corn and Oats Feeds..	12.10	8.70	61.70	3.70	3.20
Barley (grain)	2.70	12.40	69.80	1.80	2.40
Barley Sprouts	10.90	27.20	42.70	1.60	6.30
Barley and Oats, equal parts	6.10	12.10	64.75	3.40	2.70

AVERAGE COMPOSITION OF COMMERCIAL FEED STUFFS—(*Continued.*)

NAME OF FEED.	Crude Fiber.	Protein.	Starch and Sugar.	Fat.	Ash.
Oats (grain)	9.50	11.80	59.70	5.00	3.00
Oat Feed	6.10	16.00	54.90	7.10	3.70
Rice (grain)	0.20	7.40	79.20	0.40	0.40
Rice Bran	9.50	12.10	49.90	8.80	10.00
Rice Hulls	35.70	3.60	38.60	0.70	13.20
Rye (grain)	1.70	10.60	72.50	1.70	1.90
Rye Bran	3.50	14.70	63.80	2.80	3.60
Wheat (grain)	1.80	11.90	71.90	2.10	1.80
Cow Pea	4.10	20.80	55.70	1.40	3.20
Cow Pea Hay	20.10	16.60	42.20	2.20	7.50
Velvet Beans and Hulls	9.20	19.70	51.30	4.50	3.30
Velvet Bean Hay......	29.70	14.70	41.00	1.70	5.70
Beggarweed Hay	24.70	21.70	30.20	2.30	10.90
Japanese Kudzu Hay..	32.14	17.43	30.20	1.67	6.87
Cotton Seed (whole)..	23.20	18.40	24.70	19.90	3.50
Cotton Seed Hulls.....	44.40	4.00	36.60	2.00	2.60
Gluten Feed	5.30	24.00	51.20	10.60	1.10
Beef Scrap	......	44.70	3.28	14.75	29.20

COMMERCIAL STATE VALUES OF FEED STUFFS FOR 1911.

For the season of 1911 the following "State values" are fixed as a guide to purchasers.

These values are based on the current price of corn, which has been chosen as a standard in fixing the commercial values; the price of corn, to a large extent, governing the price of other feeds, pork, beef, etc.:

Commercial Values of Feedstuffs for 1910.

Protein, 3⅛c. per pound	62½c. per unit
Starch and Sugar, 1¼c. per pound	25 c. per unit
Fats, 3⅛c. per pound	62½c per unit

A unit being 20 pounds (1%) of a ton.

Indian corn being the standard @ $27.50 per ton.

To find the commericial State value, multiply the percentages by the price per unit.

Example No. 1.

HOMINY FEED—

Protein	10.50	x 62.5c,	$ 6.56
Starch and Sugar	65.30	x 25.0c,	16.43
Fat	7.85	x 62.5c,	4.91
State value per ton			$27.90

Example No. 2.

CORN—

Protein	10.50	x 62.5c,	$ 6.56
Starch and Sugar	69.60	x 25.0c,	17.40
Fat	5.40	x 62.5c,	3.38
State value per ton			$27.34

FORMULAS.

There are frequent inquiries for formulas for various crops, and there are hundreds of such formulas published; and, while there are hundreds of "brands," the variations in these grades are surprisingly little. Dozens of "brands" put up by the same manufacturer are identical goods, the only difference being in the name printed on the tag or sack. A good general formula for field or garden might be called a "vegetable formula," and would have the following: Ammonia, 3½%; available phosphoric acid, 6½%; and potash, 7½%. The following formulas will furnish the necessary plant food in about the above proportion. I have purposely avoided the use of any fraction of 100 pounds in these formulas to simplify them. Values are taken from price lists furnished by the trade, which we published in our Report of January 1, 1910.

For cotton, corn, sweet potatoes and vegetables: Ammonia, 3½%; available phosphoric acid, 6½%; potash, 7½%.

(A) "VEGETABLE."

No. 1.

		Per Cent.	
900	pounds of Cotton Seed Meal (7½-2½-1½)	3.25	Ammonia
800	pounds of Acid Phosphate (16 per cent)	6.40	Available
300	pounds of Muriate (or Sulphate) (50 per cent)	7.50	Potash
2000			

State value mixed and bagged..............$27.52

Plant Food per ton........................ 343 pounds

No. 2.

		Per Cent.	
1000	lbs of Blood and Bone (6½-8)	3.25	Ammonia
400	lbs of Acid Phosphate (16 per cent)	7.00	Available
600	lbs of Low Grade Sulp. Pot. (26 per cent) ..	7.80	Potash
2000			

State value mixed and bagged...............$28.45

Plant Food per ton........................ 360 pounds

No. 3.

		Per Cent.
300	lbs of Dried Blood (16 per cent)	3.25 Ammonia
100	lbs of Nitrate of Soda (17 per cent)	8.00 Available
1000	lbs of Acid Phosphate (16 per cent)	7.80 Potash
600	lbs of Low Grade Sulp. Pot. (26 per cent)	
2000		

State value mixed and bagged...............$29.45

Plant Food per ton......................... 381 pounds

(B) "FRUIT AND VINE."

No. 1.

Fruits, Melons, Strawberries, Irish Potatoes: Ammonia 4 per cent., Available Phosphoric Acid 7 per cent., Potash 10 per cent.

		Per Cent.
1000	lbs of Blood and Bone (6½-8)	
100	lbs of Nitrate of Soda (17 per cent)	4 Ammonia
500	lbs of Acid Phosphate (16 per cent)	8 Available
400	lbs of Muriate of Potash (50 per cent)	10 Potash
2000		

State value mixed and bagged...............$34.50

Plant Food per ton......................... 440 pounds

No. 2.

		Per Cent.
500	lbs of Castor Pomace (6-2 per cent)	4.00 Ammonia
200	lbs of Sulp. of Am. (25 per cent)	7.70 Available
900	lbs of Acid Phosphate (16 per cent)	9.60 Potash
400	lbs of Sulp. of Pot. (48 per cent)	
2000		

State value mixed and bagged...............$33.76

Plant Food per ton......................... 426 pounds

No. 3.

		Per Cent.
500	lbs of Cotton Seed Meal (7½-2½-1½)	
100	lbs of Nitrate of Soda (17 per cent)	3.97 Ammonia
100	lbs of Sulp. of Am. (25 per cent)	8.30 Available
900	lbs of Acid Phosphate (16 per cent)	8.97 Potash
400	lbs of Sulp. of Potash (48 per cent)	
2000		

State value mixed and bagged...............$33.57

Plant Food per ton......................... 425 pounds

SOIL ANALYSIS.

We frequently have samples of soil sent in for analysis and a request to advise as to the best methods of fertilizing. Excepting in extreme cases, such as Heavy Clays, Pure Sand and Muck Lands, there is but little information to be derived from a soil analysis that would be of benefit to farmers. So much depends on tilth, drainage, culture and other physical conditions that an anlysis made under laboratory conditions is of little value. In this connection we quote from the Report of the Indiana Agricultural Experiment Station, Purdue University, of Lafayette, Ind., as follows:

"SOIL ANALYSIS OF LITTLE VALUE IN SHOWING FERTILIZER REQUIREMENTS.—The Chemical Department is called upon to answer hundreds of letters of inquiry in relation to agricultural chemical problems from people all over the State. In this connection it might be well to say that there is a widespread idea that the chemist can analyze a sample of soil and, without further knowledge of the conditions, write out a prescription of a fertilizer which will fill the needs of that particular soil.

"The Experiment Station does not analyze samples of soil to determine the fertilizer requirements. There is no chemical method known that will show reliably the availability of the plant food elements present in the soil, as this is a variable factor, influenced by the kind of crop, the type of soil, the climate and biological conditions; hence, we do not recommend this method of testing soil."

The method recommended by the Indiana Station is the field fertilizer test or plot system, in which long, narrow strips of the field to be tested are measured off side by side. The crop is planted uniformly over each. Different fertilizers are applied to the different plots, every third or fourth one being left unfertilized. The produce from these plots is harvested separately and weighed. In this manner the farmer can tell what fertilizer is best suited for his needs. As climatic conditions may influence the yield with different fertilizers, it is best to carry on such tests for more than one year before drawing definite conclusions. There is positively no easier or shorter method of testing the soil that we feel safe in recommending.

Soil can be greatly improved by an intelligent rotation of crops, the conservation of stable manure, and the use of some kind of commercial fertilizer. Farmers need have no fear that the proper application of commercial fertilizer will injure the land.

WATER ANALYSIS.

We frequently analyze water for public use, city, town and neighborhood supplies; springs and artesian wells in which the public is interested; and for individuals when some economic question, boiler, laundry or other industrial use is to be decided. WE DO NOT ANALYZE WATER FOR INDIVIDUAL ACCOUNT WHEREIN THE PUBLIC IS NOT INTERESTED. SUCH SAMPLES SHOULD BE SENT TO A COMMERCIAL LABORATORY. THE STATE LABORATORY DOES NOT COMPETE WITH COMMERCIAL LABORATORIES. Also, we do not make bacteriological examinations nor examinations for disease germs. Such examinations and analyses are made by the State Board of Health at Jacksonville.

We do not make a sanitary analysis, nor a complete quantitative determination, separating each mineral and stating the quantity thereof. Such an analysis would be costly in time and labor, and of no real value to the inquirer. We determine the total dissolved solids in the sample and report them as parts per 1,000,000, naming the principal ingredients in the order of their predominance. We find Calcium Carbonate (lime), Sodium Chloride (salt), Magnesium Sulphate (epsom salts), Silica (sand), and Iron, is the general order of their predominance, though on the coast, where the total dissolved solids amounts to 5,000 or more parts per 1,000,000, Sodium Chloride (salt) is the predominant substance.

From a knowledge of the chemical analysis of a water, unaccompanied by any further information, no conclusion as to the potability and healthfulness of the water can be deduced.

Therefore, we require the following information to be given in regard to the source of the water:

(1). The source of the water: spring, lake, river, driven well, dug well, bored well, artesian well, or flowing well; and also the depth of the water surface below the top of the soil, and in case wells the depth of the casing.

(2). The locality of the source of the water: town, city or village; or the section, township and range.

(3). The proposed use of the water: city supply, domestic use, laundry, boiler, irrigation or other industrial use.

(4). No sample of water will be analyzed unless the name and address of the sender is on the package for identification.

We require two gallons of each sample of water, in a new jug, stopped with a new cork, and sent by prepaid express. We will not accept any sample of water for analysis not in a new jug. Vessels previously used for other purposes are never properly cleaned for sending samples of water for analysis. Corks, once used for other substances (molasses, vinegar, whiskey, kerosene, etc.) are never properly cleaned. In sampling a well water, the stagnant water in the pump must first be pumped off. The jug must first be rinsed with the water to be sampled, emptied, and then filled. A sample of spring, river or lake water is best taken (after rinsing the jug) by allowing the jug to fill after immersion some distance under the surface near the center of the body of water.

NOTE.—We find the waters of the State—springs, wells, driven wells and artesian wells—generally very pure and wholesome, with but little mineral impurity and that such as is not harmful. Except in cases of gross carelessness, in allowing surface water to contaminate the well or spring, the waters of the State are pure and wholesome. The deep wells of the State are noted for their purity and healthfulness.

ANALYSIS OF FOODS AND DRUGS.

Samples of Foods and Drugs are drawn under special regulations. Application should be made to the Commissioner of Agriculture or State Chemist for the necessary blanks, instructions, etc., for drawing and transmitting samples of foods and drugs, including drinks of all kinds.

DEPARTMENT OF AGRICULTURE—DIVISION OF CHEMISTRY.

FERTILIZER SECTION.

R. E. ROSE, State Chemist. SPECIAL FERTILIZER ANALYSES, 1910. L. HEIMBURGER, Assistant Chemist.

Samples taken by Purchaser Under Section 9, Act Approved May 22, 1901.

NAME, OR BRAND.	Laboratory Number.	Moisture.	Phosphoric Acid.			Ammonia.	Potash (K2O.)	BY WHOM SENT.
			Available.	Insoluble.	Total.			
Fertilizer	2012	4.71	7.78	3.38	11.16	1.73	16.46	A. B. Bryan, Bowling Green, Fla.
Fertilizer	2013	......	5.48	1.19	6.67	4.20	6.76	J. E. Wilson, Ft. Meade, Fla.
Fertilizer	2014	11.12	7.52	1.89	9.41	4.80	6.24	James Campbell, Longwood, Fla.
Fertilizer	2015	7.52	7.18	0.32	7.50	3.83	11.80	A. S. Alfred, St. Petersburg, Fla.
Palmetto Ashes	2016	......	......	......	......	......	2.38	D. E. Haywood, West Palm Beach, Fla.
Blood and Bone	2017	......	......	......	5.59	11.15	......	John H. Blake, Tampa, Fla.
Fertilizer	2018	8.32	8.03	0.10	8.13	4.36	10.43	H. A. Perry, Pomona, Fla.
Fertilizer	2019	......	3.23	10.40	13.63	4.98	4.39	H. W. Smith, Zolfo, Fla.
Fertilizer	2020	......	6.60	1.48	8.08	4.02	5.25	R. L. Coward, Ona, Fla.
Fertilizer No. 1	2021	......	2.97	10.49	13.46	4.65	8.57	Lewis, Baldwin & Co., Bowling Green, Fla.
Nitrate of Soda (?) (Pot. Salt)	2022	......	......	......	......	Trace.	......	H. C. Hadley, Ft. Myers, Fla.
Fertilizer	2023	......	5.82	1.13	6.95	4.27	8.49	W. C. McCall, Miami, Fla.
Fertilizer No. 2	2024	......	11.60	0.09	11.69	2.98	7.06	Lewis, Baldwin & Co., Bowling Green, Fla.

SPECIAL FERTILIZER ANALYSES, 1910—Continued.

NAME, OR BRAND.	Laboratory Number.	Moisture.	Phosphoric Acid.			Ammonia.	Potash (K_2O)	BY WHOM SENT.
			Available	Insoluble.	Total.			
Fertilizer	2025	12.54	10.58	0.80	11.38	5.26	7.62	V. I. Carrier, Crescent City, Fla.
Dried Blood	2026	......	......	......	......	15.80	......	Joe Cameron, Sanford, Fla.
Fertilizer No. 1	2027	7.53	9.21	2.06	11.27	5.09	5.58	C. S. Bushnell, Arcadia, Fla.
Fertilizer No. 1	2028	8.98	5.11	0.92	6.03	5.47	10.88	F. A. Buckles, Plant City, Fla.
Fertilizer No. 2	2029	7.63	5.48	1.42	6.90	5.62	10.90	F. A. Buckles, Plant City, Fla.
Fertilizer	2030	8.46	6.94	0.49	7.43	3.47	8.80	G. Douet, Astatula, Fla.
Ashes "A"	2031	......	......	......	......	......	4.79	Geo. L. Maris, Sanford, Fla.
Ashes "B"	2032	......	......	......	......	......	0.87	Geo. L. Maris, Sanford, Fla.
Fertilizer	2033	9.75	6.60	1.88	8.48	4.84	5.95	James McKay, Boynton, Fla.
Fertilizer	2034	6.95	6.52	3.62	10.14	2.44	13.13	Lewis & Co., Kathleen, Fla.
Fertilizer	2035	10.75	6.45	0.82	7.27	2.98	9.13	C. B. Gwynn, Tallahassee, Fla.
Acid Phosphate No. 1	2036	......	14.28	0.27	14.55	......	......	L. Heimburger, Tallahassee, Fla.
Acid Phosphate No. 2	2037	......	16.04	0.30	16.34	......	......	L. Heimburger, Tallahassee, Fla.
Cotton Seed Meal	2038	......	......	......	......	8.00	......	Geneva Lumber Co., Eleanor, Fla.
Fertilizer	2039	6.46	6.95	1.19	8.14	4.30	7.89	I. N. Cochran, Ona, Fla.
Fertilizer, "Oats"	2040	6.13	9.96	0.07	10.03	2.60	4.29	C. B. Gwynn, Tallahassee, Fla.
Fertilizer, "Vegetable"	2041	8.55	6.09	1.09	7.18	4.08	8.36	C. B. Gwynn, Tallahassee, Fla.
Ashes, "X"	2042	......	......	......	......	......	6.42	F. F. Dutton, Sanford, Fla.
Fertilizer No. 1	2043	6.01	6.72	0.40	7.12	5.98	7.93	Spencer Smith, Arcadia, Fla.
Fertilizer "B. S. F. C."	2044	8.91	11.31	1.22	12.53	4.60	6.63	J. P. Coward, Crescent City, Fla.

Fertilizer	2045	5.58	4.61	5.20	9.81	6.50	6.61	Geo. A. Butler, Tavares, Fla.
Fertilizer No. 2	2046	8.34	15.30	0.07	15.37	1.00	2.04	Spencer Smith, Arcadia, Fla.
Dried Blood	2047					16.35		Ocala Fertz. Co., Ocala, Fla.
Muriate of Potash	2048						50.64	Ocala Fertz. Co., Ocala, Fla.
H. G. Sulphate of Potash	2049						50.64	Ocala Fertz. Co., Ocala, Fla.
L. G. Sulphate of Potash	2050						26.44	Ocala Fertz. Co., Ocala, Fla.
Fertilizer No. 1	2051		7.18	0.35	7.53	4.42	7.89	Ocala Fertz. Co., Ocala, Fla.
Fertilizer No. 2	2052		9.00	0.12	9.12	5.13	8.43	Ocala Fertz Co., Ocala, Fla.
Fertilizer No. 2	2053	3.61	2.56	9.69	12.25	4.18	10.69	C. S. Bushnell, Arcadia, Fla.
Fertilizer	2054	7.41	7.37	1.70	9.07	3.83	3.23	E. Patrick, Turkey Creek, Fla.
Fertilizer, "Wilson's Special"	2055		10.09	0.13	10.22	2.84	3.53	A. L. Wilson & Co., Quincy, Fla.
Acid Phosphate No. 1	2056		16.89	0.41	17.30			A. L. Wilson & Co., Quincy, Fla.
Acid Phosphate No. 2	2057		17.42	0.08	17.50			A. L. Wilson & Co., Quincy, Fla.
Acid Phosphate	2058		15.92	0.21	16.13			J. H. McClinton, Ft. White, Fla.
Kainit	2059						13.42	J. H. McClinton, Ft. White, Fla.
Fertilizer	2060		12.07	0.99	13.06	1.53	1.76	W. R. Booth, Campbellton, Fla.
Fertilizer	2061	5.31	9.89	0.04	9.93	1.40	14.89	R. F. Kleisen, Yalaha, Fla.
Kainit No. 1	2062						13.88	A. L. Beck, Orlando, Fla.
Kainit No. 2	2063						13.67	A. L. Beck, Orlando, Fla.
Fertilizer No. 3	2064		6.42	0.05	6.47	4.04	12.10	A. L. Beck, Orlando, Fla.
Palmetto Ashes	2065						3.35	L. B. Thompson, Pensacola, Fla.
Fertilizer	2066	9.88	6.91	2.46	9.37	5.23	8.24	C. B. Morrow, Crescent City, Fla.
Fertilizer No. 1	2067		10.34	0.94	11.28	2.45	1.57	Milton Cash Store, Milton, Fla.
Fertilizer No. 2	2068		10.25	0.90	11.15	2.24	1.71	Milton Cash Store, Milton, Fla.
Acid Phosphate No. 3	2069		14.21	1.80	16.01			Milton Cash Store, Milton, Fla.
Fertilizer, "Tomato No. 1"	2070		3.53	0.49	4.02	8.28	10.04	Walter Waldin, Miami, Fla.
Fertilizer, "Tomato No. 2"	2071		5.47	4.02	9.49	5.95	6.32	Walter Waldin, Miami, Fla.
Fertilizer, "Deli Tabakimert"	2072	7.71	5.88	0.06	5.94	6.45	10.01	C. G. A. Griek, Tallahassee, Fla.
Kainit	2073						14.33	Jas. X. Towles, Athena, Fla.
Fertilizer	2074		9.17	0.56	9.73	2.09	3.24	T. J. Ruff, Ft. White, Fla.
Kainit	2075						13.88	T. J. Ruff, Ft. White, Fla.

SPECIAL FERTILIZER ANALYSES, 1910—Continued.

NAME, OR BRAND.	Laboratory Number.	Moisture.	Phosphoric Acid.			Ammonia.	Potash (K_2O).	BY WHOM SENT.
			Available.	Insoluble.	Total.			
Fertilizer No. 1.............	2076	5.51	6.09	1.07	7.16	5.45	8.72	The Armour Fertz. Co., Jacksonville, Fla.
Fertilizer No. 2..............	2077	6.03	8.36	0.24	8.60	4.32	12.32	The Armour Fertz. Co., Jacksonville, Fla.
Fertilizer No. 3..............	2078	8.47	6.62	0.68	7.30	3.01	10.71	The Armour Fertz. Co., Jacksonville, Fla.
Fertilizer No. 4..............	2079	5.82	6.21	0.58	6.79	3.24	8.49	The Armour Fertz. Co., Jacksonville, Fla.
Fertilizer No. 5..............	2080	5.44	5.46	1.10	6.56	5.19	5.62	The Armour Fertz. Co., Jacksonville, Fla.
Dried Blood	2081	......	......	......	......	15.53	......	A. L. Beck, Orlando, Fla.
Fertilizer, "Potato Special"..	2082	......	7.32	2.73	10.05	4.01	12.22	J. W. Teasley, Tampa, Fla.
Cotton Seed Meal...........	2083	......	......	......	......	7.28	......	John J. Evans, Evans, Fla.
Fertilizer No. 1.............	2084	11.73	8.80	0.15	8.95	2.50	2.15	C. A. Green, Milton, Fla.
Fertilizer No. 2..............	2085	13.40	9.40	0.55	9.95	1.83	2.97	C. A. Green, Milton, Fla.
Fertilizer No. 3..............	2086	12.19	9.77	1.46	11.23	3.58	2.19	C. A. Green, Milton, Fla.
Fertilizer, "Celery Special"...	2087	......	6.20	3.95	10.15	6.53	5.88	J. W. Teasley, Tampa, Fla.
Fertilizer	2088	......	8.12	1.06	9.18	2.97	2.37	R. F. Howard, Tallahassee, Fla.
Fertilizer, "C. B. & Q. 92530".	2089	7.12	8.72	1.02	9.74	4.89	8.50	Munroe & Chambliss, Ocala, Fla.

Fertilizer, "Grand Trunk 10980"	2090	7.54	7.70	1.45	9.15	4.95	8.61	Munroe & Chambliss, Ocala, Fla.
Fertilizer, "A.T. & S. F. 28910"	2091	6.79	9.42	1.50	10.92	4.70	7.89	Munroe & Chambliss, Ocala, Fla.
Dried Blood	2092	......	......	......	......	16.26	......	A. L. Beck, Orlando, Fla.
Fertilizer	2093	8.67	5.78	1.73	7.51	4.97	9.19	W. A. Varn, Bartow, Fla.
Fertilizer No. 1	2094	7.92	8.30	0.02	8.32	4.47	11.77	J. J. Stephens, Castalia, Fla.
Fertilizer No. 2	2095	5.98	8.11	0.12	8.23	4.25	12.33	J. J. Stephens, Castalia, Fla.
Fertilizer No. 3	2096	16.58	6.72	1.09	7.81	3.60	6.17	J. J. Stephens, Castalia, Fla.
Fertilizer No. 4	2097	19.03	6.35	1.15	7.50	3.14	7.05	J. J. Stephens, Castalia, Fla.
Cotton Seed Meal, "C. M. & S. P. No. 18110"	2098	......	......	......	......	7.36	......	Am. Sumatra Tobacco Co., Quincy, Fla.
Cotton Seed Meal, "L. & N. 10328"	2099	......	......	......	......	7.32	......	Am. Sumatra Tobacco Co., Quincy, Fla.
Cotton Seed Meal, "S. A. L. 24772"	2100	......	......	......	......	8.01	......	Am. Sumatra Tobacco Co., Quincy, Fla.
Cotton Seed Meal, "A. C. L. 23157"	2101	......	......	......	......	7.15	......	Am. Sumatra Tobacco Co., Quincy, Fla.
Fertilizer	2102	7.54	6.04	3.61	9.65	2.18	11.21	Names McVicker, Cobb, Fla.
Fertilizer No. 1	2103	15.82	12.14	0.63	12.77	2.15	1.64	J. F. Lannous, Galloway, Fla.
Fertilizer No. 2	2104	......	11.34	0.73	12.07	1.87	1.59	J. F. Lannous, Galloway, Fla.
Fertilizer	2105	......	5.96	0.67	6.63	5.38	13.63	A. J. Mixson, Williston, Fla.
Cotton Seed Meal No. 1	2106	......	......	......	......	7.49	......	Gadsden Shade Tobacco Co., Quincy, Fla.
Cotton Seed Meal No. 2	2107	......	......	......	......	7.48	......	Gadsden Shade Tobacco Co., Quincy, Fla.
Thomas Slag Phosphate, "Sou. 11475."	2108	......	6.38	12.18	18.56	......	......	Kraus, McFarlin Co., Quincy, Fla.
Cotton Seed Meal, "L. & N. 12218"	2109	......	......	......	......	6.92	......	Kraus, McFarlin Co., Quincy, Fla.
Cotton Seed Meal, "I. C. 14534"	2110	......	......	......	......	7.01	......	Kraus, McFarlin Co., Quincy, Fla.

SPECIAL FERTILIZER ANALYSES, 1910—Continued.

NAME, OR BRAND.	Laboratory Number.	Moisture.	Phosphoric Acid.			Ammonia.	Potash (K_2O).	BY WHOM SENT.
			Available.	Insoluble.	Total.			
Cotton Seed Meal, "Sou. 13983"	2111	......	......	......	......	6.95	......	Kraus, McFarlin Co., Quincy, Fla.
Cotton Seed Meal, "A. C. L. 23157"	2112	......	......	......	......	7.19	......	Kraus, McFarlin Co., Quincy, Fla.
Cotton Seed Meal, "P. R. R. 4783"	2113	......	......	......	......	6.96	......	Kraus, McFarlin Co., Quincy, Fla.
Cotton Seed Meal, "M. P. 39010"	2114	......	......	......	......	7.17	......	Kraus, McFarlin Co., Quincy, Fla.
Fertilizer	2115	8.81	7.54	0.37	7.91	4.95	9.03	A. H. Perry, Pomona, Fla.
Fertilizer	2116	7.41	8.29	0.16	8.45	3.30	11.44	John T. Richards, Orlando, Fla.
Fertilizer	2117	......	3.97	2.30	6.27	7.00	7.03	R. E. Rose, Tallahassee, Fla.
Cotton Seed Meal (G. T. No. 4461)	2118	......	......	......	......	7.35	......	Lewis Bear Co., Pensacola, Fla.
Cotton Seed Meal (A. C. L. No. 33350)	2119	......	......	......	......	7.25	......	Lewis Bear Co., Pensacola, Fla.
Cotton Seed Meal "W"	2120	......	......	......	......	4.38	......	D. M. Lowery, Tallahassee, Fla.
Cotton Seed Meal "B"	2121	......	......	......	......	4.28	......	D. M. Lowery, Tallahassee, Fla.
Fertilizer	2122	12.17	8.55	0.27	8.82	2.08	2.48	W. A. Galloway, Ferry, Fla.
Fertilizer	2123	12.76	9.25	0.39	9.64	1.65	1.86	C. T. Jenkins, Ferry, Fla.
Acid Phosphate	2124	......	15.71	0.85	16.56	......	......	J. D. Johnson, Holt, Fla.

Nitrate of Soda	2125	......	.....	......	......	18.60	......	J. D. Johnson, Holt, Fla.
Peruvian Guano (M. C. No. 48235)	2126	......	9.21	5.43	14.64	6.50	2.05	Kraus, McFarlin Co., Quincy, Fla.
Peruvian Guano (Sou. No. 132963)	2127	......	10.85	5.32	16.17	6.99	2.48	Kraus, McFarlin Co., Quincy, Fla.
Peruvian Guano (M. & W. No. 60028)	2128	......	10.17	4.01	14.18	5.96	2.38	Kraus, McFarlin Co., Quincy, Fla.
Basic Slag (C. & O. No. 5296)	2129	......	5.53	12.00	17.53	......	......	Kraus, McFarlin Co., Quincy, Fla.
Basic Slag (S. A. L. No. 18731)	2130	......	5.84	11.88	17.72	......	......	Kraus, McFarlin Co., Quincy, Fla.
Basic Slag (Sou. No. 9947)	2131	......	6.23	11.97	18.20	......	......	Kraus, McFarlin Co., Quincy, Fla.
Cotton Seed Meal (R. I. C. No. 60144)	2132	......	.....	......	......	7.24	......	Kraus, McFarlin Co., Quincy, Fla.
Cotton Seed Meal (I. C. No. 25132)	2133	......	.....	......	......	7.35	......	Kraus, McFarlin Co., Quincy, Fla.
Cotton Seed Meal (B. & O. No. 70177)	2134	......	.....	......	......	7.15	......	Kraus, McFarlin Co., Quincy, Fla.
Cotton Seed Meal (N. & W. No. 60396)	2135	......	.....	......	......	7.30	......	Kraus, McFarlin Co., Quincy, Fla.
Cotton Seed Meal (M. C. No. 44538)	2136	......	.....	......	......	7.52	......	Kraus, McFarlin Co., Quincy, Fla.
Cotton Seed Meal	2137	......	.....	......	......	7.85	......	Mrs. H. W. Thomas, DeFuniak, Fla.
Fertilizer	2138	......	11.15	0.35	11.50	1.70	2.21	Charles Foster, Holt, Fla.
Fertilizer	2139	12.15	9.34	0.76	10.10	2.23	2.04	Milton Foster, Red Rock, Fla.
Cotton Seed Meal	2140	......	.....	......	......	7.56	......	Purnon Chappell, Quincy, Fla.
Cotton Seed Meal	2141	......	.....	......	......	6.78	......	T. G. Lambert, Quincy, Fla.
Cotton Seed Meal	2142	......	.....	......	......	7.62	......	L M. Owens, Quincy, Fla.
Cotton Seed Meal	2143	......	.....	......	......	7.54	......	F. L. Owens, Quincy, Fla.
Cotton Seed Meal	2144	......	.....	......	......	6.96	......	H. F. Dykes, Quincy, Fla.
Cotton Seed Meal	2145	......	.....	......	......	7.52	......	M. G. Flake, Quincy, Fla.
Cotton Seed Meal	2146	......	.....	......	......	7.66	......	C. W. Owens, Quincy, Fla.

SPECIAL FERTILIZER ANALYSES, 1910—Continued.

NAME, OR BRAND.	Laboratory Number.	Moisture.	Phosphoric Acid.			Ammonia.	Potash (K_2O).	BY WHOM SENT.
			Available	Insoluble.	Total.			
Cotton Seed Meal (C. of Ga. No. 4662)	2147	......	.....	......	......	6.81	......	Kraus, McFarlin Co., Quincy, Fla.
Cotton Seed Meal (L. & N. No. 67183)	2148	......	.....	......	......	7.07	......	Kraus, McFarlin Co., Quincy, Fla.
Cotton Seed Meal (Grand Trunk No. 12573)	2149	......	.....	......	......	7.40	......	Kraus, McFarlin Co., Quincy, Fla.
Cotton Seed Meal (M. L. & T. No. 30606)	2150	......	.....	......	......	7.27	......	Kraus, McFarlin Co., Quincy, Fla.
Cotton Seed Meal (L. & N. No. 17759)	2151	......	.....	......	......	6.92	......	Kraus, McFarlin Co., Quincy, Fla.
Fertilizer No. 1	2152	15.36	9.29	1.75	11.04	2.57	1.36	T. G. Lambert, Quincy, Fla.
Fertilizer No. 2	2153	10.15	11.07	1.29	12.36	......	4.61	T. G. Lambert, Quincy, Fla.
Fertilizer	2154	13.51	8.89	0.71	9.60	2.20	3.01	T. W. Bryan, Sullivan, Fla.
Fertilizer No. 1.............	2155	......	9.80	0.02	9.82	1.59	2.81	W. P. Bryan, Sullivan, Fla.
Fertilizer No. 2	2156	......	12.13	0.22	12.35	2.02	1.88	W. P. Bryan, Sullivan, Fla.
Muriate of Potash	2157	......	.....	......	......	......	58.88	W. P. Bryan, Sullivan, Fla.
Fertilizer No. 3	2158	11.11	11.28	0.59	11.87	3.36	3.07	W. P. Bryan, Sullivan, Fla.
Nitrate of Soda	2159	......	.....	......	......	18.39	......	W. P. Bryan, Sullivan, Fla.
Fertilizer	2160	11.28	8.50	0.05	8.55	2.13	2.35	T. W. Bryan, Sullivan, Fla.
Fertilizer	2161	......	15.62	1.71	17.33	0.95	2.01	Ernest Amos, Tallahassee, Fla.

Fertilizer	2162	11.79	13.05	1.16	14.21	1.90	1.74	John Johnson, Sullivan, Fla.
Muriate of Potash	2163	......	.....	......	......	......	50.20	John Johnson, Sullivan, Fla.
Fertilizer (Hanna No. 1)	2164	......	11.48	1.70	13.18	......	3.72	A. L. Wilson Co., Quincy, Fla.
Fertilizer	2165	......	6.04	1.55	7.59	3.15	10.43	C. B. Dean, Lakeland, Fla.
Fertilizer No. 1B	2166	......	11.48	0.12	11.60	1.50	2.75	C. H. Scott, Bascom, Fla.
Fertilizer No. 2M	2167	......	10.68	0.61	11.29	2.38	2.50	C. H. Scott, Bascom, Fla.
Fertilizer	2168	10.17	10.15	0.28	10.43	1.64	2.29	W. E. Foster, Red Rock, Fla.
Fertilizer (Com. Sam. "Cotton Boll")	2169	......	9.71	1.03	10.74	2.22	1.35	T. & L. M. Owens, Quincy, Fla.
Fertilizer (Com. Sam. "Complete Guano..)	2170	......	9.43	0.30	9.73	4.25	1.94	H. F. Dykes and J. L. Owens, Quincy, Fla.
Cotton Seed Meal	2171	......	.....	......	......	7.95	......	W. T. Owens, Quincy, Fla.
Cotton Seed Meal	2172	......	.....	......	......	6.10	......	L. Heimburger, Tallahassee, Fla.
Nitrate of Soda	2173	......	.....	......	......	18.02	......	L. Heimburger, Tallahassee, Fla.
Fertilizer (Com. Sample "Meal Mixt.")	2174	......	9.05	0.93	9.98	2.55	1.47	W. C., J. L. & W. T. Owens, H. F. Dykes, Quincy, Fla.
Acid Phosphate (Com.Sample)	2175	......	17.65	0.33	17.98	......	......	P. Chappell, J. L. & L. N. Owens, Quincy, Fla.
Acid Phosphate	2176	......	17.76	0.06	17.82	......	......	W. C. Owens, Quincy, Fla.
Fertilizer	2177	......	9.58	2.24	11.82	2.31	1.51	W. C. Owens, Quincy, Fla.
Fertilizer	2178	10.75	12.10	0.65	12.75	2.65	0.83	J. J. Cooley, Sullivan, Fla.
Acid Phosphate	2179	......	15.81	1.02	16.83	......	......	J. J. Cooley, Sullivan, Fla.
Fertilizer ("Meal Mixt.")	2180	......	7.71	0.46	8.17	2.17	2.69	J. P. Rhoads, Holt, Fla.
Acid Phosphate ("R. & E.")	2181	......	16.98	0.14	17.12	......	......	J. P. Rhoads, Holt, Fla.
Acid Phosphate ("W. C. L.")	2182	......	15.58	0.14	15.72	......	......	J. P. Rhoads, Holt, Fla.
Fertilizer ("Blood Mixt.")	2183	......	8.57	0.62	9.19	2.65	3.39	J. P. Rhoads, Holt, Fla.
Fertilizer ("Bone Comp. W. C. L.")	2184	8.10	11.20	0.92	12.12	2.08	2.70	J. P. Rhoads, Holt, Fla.
Acid Phosphate ("J. G.")	2185	......	15.42	0.54	15.96	......	......	J. Griffith, Holt, Fla.
Fertilizer ("Cotton Boll")	2186	......	9.72	0.25	9.97	2.15	3.18	J. Griffith, Holt, Fla.
Fertilizer ("Mobile Stand. J. G.")	2187	......	12.50	0.13	12.63	2.05	1.77	J. Griffith, Holt, Fla.

SPECIAL FERTILIZER ANALYSES, 1910—Continued.

NAME, OR BRAND.	Laboratory Number.	Moisture.	Phosphoric Acid.			Ammonia.	Potash (K_2O)	BY WHOM SENT.
			Available.	Insoluble.	Total.			
Potash Salt No. 1	2188	......	.....	......	......	......	50.80	J. E. Dubuission & Bro., Pensacola, Fla.
Potash Salt No. 2	2189	8.70	.....	......	......	......	19.88	J. E. Dubuission & Bro., Pensacola, Fla.
Sulphate of Potash	2190	......	.....	......	......	......	51.88	John H. Blake, Tampa, Fla.
Fertilizer "A"	2191	6.63	7.00	0.19	7.19	4.59	12.16	John H. Blake, Tampa, Fla.
Fertilizer "B"	2192	6.27	7.00	0.22	7.22	3.54	13.53	John H. Blake, Tampa, Fla.
Cotton Seed Meal	2193	......	.....	......	......	7.49	......	A. L. Wilson Co., Quincy, Fla.
Fertilizer	2194	11.36	8.01	0.84	8.85	2.05	5.90	McCloy H. Martin, Sanford, Fla.
Dried Blood	2195	......	.....	......	......	16.25	......	A. N. Hoofnagle, Ft. Pierce, Fla.
Bone Meal	2196	......	8.25	15.49	23.74	3.03	......	A. N. Hoofnagle, Ft. Pierce, Fla.
Palmetto Ashes	2197	......	.....	......	......	......	0.51	L. B. Thompson, Pensacola, Fla.
Cotton Seed Meal	2198	......	.....	......	......	7.20	......	B. A. Pucket, Quincy, Fla.
Cotton Seed Meal	2199	......	.....	......	......	7.27	......	M. H. Mosley, Quincy, Fla.
H. W. Ashes "A"	2200	......	.....	......	......	......	2.38	The South. Fertz. Co., Orlando, Fla.
H. W. Ashes "B"	2201	......	.....	......	......	......	4.50	The South. Fertz. Co., Orlando, Fla.
Fertilizer No. 1	2202	5.03	7.10	0.80	7.90	4.25	12.02	John H. Blake, Tampa, Fla.
Fertilizer No. 2	2203	7.00	7.90	0.80	8.70	4.39	12.55	John H. Blake, Tampa, Fla.
Fertilizer No. 4	2204	10.78	9.63	1.12	10.75	1.66	2.19	Milton Cash Store, Milton, Fla.
Cotton Seed Meal	2205	......	.....	......	......	7.40	......	K. W. Johnson, Lakewood, Fla.

Cotton Seed Meal	2206	......	.....	......	......	7.19	......	R. B. Campbell, Tampa. Fla.
Fish	2207	......	4.34	1.81	6.15	10.04	......	R. B. Campbell, Tampa. Fla.
Fertilizer No. 1	2208	4.46	4.93	6.12	11.05	4.65	6.91	R. B. Campbell, Tampa. Fla.
Fertilizer No. 2	2209	4.30	6.86	5.29	12.15	4.25	6.71	R. B. Campbell, Tampa. Fla.
Fertilizer No. 3	2210	2.50	6.59	5.21	11.80	2.65	12.19	R. B. Campbell, Tampa. Fla.
Fertilizer No. 4	2211	2.02	7.85	2.95	10.80	4.12	13.09	R. B. Campbell, Tampa. Fla.
Fertilizer No. 5	2212	7.56	7.16	0.17	7.33	2.32	4.71	R. B. Campbell, Tampa. Fla.
Fertilizer No. 6	2213	6.08	7.79	3.61	11.40	2.59	2.89	R. B. Campbell, Tampa. Fla.
Nitrate of Soda	2214	......	.....	......	......	17.00	......	L. Heimburger, Tallahassee, Fla.
Fertilizer (L. & N. No. 8992).	2215	10.98	10.99	0.75	11.74	2.81	3.30	Kraus, McFarlin Co., Quincy, Fla.
Fertilizer (L. & N. No. 91015)	2216	10.41	12.41	0.27	12.68	1.73	3.24	Kraus, McFarlin Co., Quincy, Fla.
Fertilizer (L. & N. No. 95405)	2217	10.16	9.52	0.43	9.95	2.91	5.89	Kraus, McFarlin Co., Quincy, Fla.
Cotton Seed Meal (D. & H. Co. 15700)	2218	......	.....	......	......	7.90	......	Kraus, McFarlin Co., Quincy, Fla.
Cotton Seed Meal (S. T. L. & S. F. No. 33959)	2219	......	.....	......	......	8.30	......	Kraus, McFarlin Co., Quincy, Fla.
Cotton Seed Meal (A. C. L. 27631)	2220	......	.....	......	......	7.50	......	Kraus, McFarlin Co., Quincy, Fla.
Cotton Seed Meal (Penn. No. 16503)	2221	......	.....	......	......	8.20	......	Kraus, McFarlin Co., Quincy, Fla.
Cotton Seed Meal (M. K. & T. 10517)	2222	......	.....	......	......	7.72	......	Kraus, McFarlin Co., Quincy, Fla.
Cotton Seed Meal (B. C. R. & N. 48007)	2223	......	.....	......	......	7.47	......	Kraus, McFarlin Co., Quincy, Fla.
Cotton Seed Meal (Penn. No. 62392)	2224	......	.....	......	......	7.17	......	Kraus, McFarlin Co., Quincy, Fla.
Cotton Seed Meal (S. T. L. & S. F. No. 31211)	2225	......	.....	......	......	7.80	......	Kraus, McFarlin Co., Quincy, Fla.
Cotton Seed Meal (A. C. L. No. 18466)	2226	......	.....	......	......	7.25	......	Kraus, McFarlin Co., Quincy, Fla.
Cotton Seed Meal (70 sacks R. I. C. No. 60144)	2227	......	.....	......	......	7.48	......	Kraus, McFarlin Co., Quincy, Fla.

SPECIAL FERTILIZER ANALYSES, 1910—Continued.

NAME, OR BRAND.	Laboratory Number.	Moisture.	Phosphoric Acid.			Ammonia.	Potash (K_2O)	BY WHOM SENT.
			Available.	Insoluble.	Total.			
Cotton Seed Meal (12 sacks R. I C. No. 60144)	2228	......	.....	......	......	4.75	......	Kraus, McFarlin Co., Quincy, Fla.
Fertilizer	2229	......	11.43	1.27	12.70	2.40	2.47	J. J White, Graceville, Fla.
Fertilizer No. 1	2230	......	11.84	0.59	12.43	1.99	2.95	T. N. Darsey, Concord, Fla.
Fertilizer No. 2	2231	......	4.22	3.89	8.11	3.26	9.93	T. N. Darsey, Concord, Fla.
Fertilizer No. 3	2232	......	8.09	0.75	8.84	2.69	6.17	T. N. Darsey, Concord, Fla.
Fertilizer No. 4	2233	......	9.24	0.31	9.55	......	5.89	T. N. Darsey, Concord, Fla.
Cotton Seed Meal	2234	......	.....	......	......	7.98	......	T. N. Darsey, Concord, Fla.
Fertilizer	2235	......	8.42	2.38	10.80	4.49	4.18	E L. Beven, Crescent City, Fla.
Basic Slag (A. C. L. No. 31479)	2236	......	5.51	8.63	14.14	......	......	Am. Sumatra Tob. Co., Quincy, Fla.
Fertilizer (C. R. I. & P. No. 56943)	2237	15.08	11.05	0.85	11.90	2.60	2.81	Am. Sumatra Tob. Co., Quincy, Fla.
Fertilizer (N. Y. C. & H. R. 98750)	2238	15.44	10.53	1.17	11.70	2.27	8.57	Am. Sumatra Tob. Co., Quincy, Fla.
Peruvian Guano (P. & R. No. 3187)	2239	......	7.89	7.92	15.81	6.78	2.37	Am. Sumatra Tob. Co., Quincy, Fla.
Cotton Seed Meal (I. C. 17929)	2240	......	.....	......	......	7.27	......	Am. Sumatra Tob. Co., Quincy, Fla.
Cotton Seed Meal (P. R. R. 99856)	2241	......	.....	......	......	7.50	......	Am. Sumatra Tob. Co., Quincy, Fla.

Cotton Seed Meal (G. S. & F. 2353)	2242	......	.....	......	......	7.55	......	Am. Sumatra Tob. Co., Quincy, Fla.
Cotton Seed Meal (Sou. 138082)	2243	......	.....	......	......	7.38	......	Am. Sumatra Tob. Co., Quincy, Fla.
Cotton Seed Meal (M. C. 95810)	2244	......	.....	......	......	7.65	......	Am. Sumatra Tob. Co., Quincy, Fla.
Cotton Seed Meal (Cen. of Ga. 1682)	2245	......	.....	......	......	7.95	......	Am. Sumatra Tob. Co., Quincy, Fla.
Cotton Seed Meal (A. G. S. 12391)	2246	......	.....	......	......	7.58	......	Am. Sumatra Tob. Co., Quincy, Fla.
Cotton Seed Meal (G. F & A. 592)	2247	......	.....	......	......	7.40	......	Am. Sumatra Tob. Co., Quincy, Fla.
Cotton Seed Meal (I. C. 21756)	2248	......	.....	......	......	7.37	......	Am. Sumatra Tob. Co., Quincy, Fla.
Cotton Seed Meal (C. H. & D. Ry. 46572)	2249	......	.....	......	......	7.58	......	Am. Sumatra Tob. Co., Quincy, Fla.
Cotton Seed Meal (N. & W. 22010)	2250	......	.....	......	......	7.45	......	Am. Sumatra Tob. Co., Quincy, Fla.
Cotton Seed Meal (Wabash 62803)	2251	......	.....	......	......	7.38	......	Am. Sumatra Tob. Co., Quincy, Fla.
Cotton Seed Meal (N. Y., N. H. & H. No. 77734)	2252	......	.....	......	......	7.58	......	Am. Sumatra Tob. Co., Quincy, Fla.
Cotton Seed Meal (Erie 73482)	2253	......	.....	......	......	7.60	......	Am. Sumatra Tob. Co., Quincy, Fla.
Cotton Seed Meal (Penn. 581624)	2254	......	.....	......	......	7.60	......	Am. Sumatra Tob. Co., Quincy, Fla.
Fertilizer (N. Y., N. H. & H. 82476)	2255	13.20	10.01	0.84	10.85	2.83	4.32	Am. Sumatra Tob. Co., Quincy, Fla.
Fertilizer (M. & O. 8407)	2256	14.51	10.68	1.21	11.89	2.45	3.20	Am. Sumatra Tob. Co., Quincy, Fla.
Fertilizer (Penn. 12049)	2257	11.87	9.99	0.96	10.95	2.86	5.29	Am. Sumatra Tob. Co., Quincy, Fla.
Cotton Seed Meal	2258	......	.....	......	......	7.89	......	Ide & Burr, Quincy, Fla.
Fertilizer	2259	......	12.83	0.84	13.67	2.40	3.01	G. S. Gregory, Quincy, Fla.

SPECIAL FERTILIZER ANALYSES, 1910—Continued.

NAME, OR BRAND.	Laboratory Number.	Moisture.	Phosphoric Acid.			Ammonia.	Potash (K$_2$O)	BY WHOM SENT.
			Available	Insoluble.	Total.			
Cotton Seed Meal	2260	......	.....	......	......	8.04	......	G. S. Gregory, Quincy, Fla.
Fertilizer	2261	6.64	5.58	4.30	9.88	2.22	11.24	J. F. Lemons, Galloway, Fla.
Fertilizer	2262	12.00	9.19	0.65	9.84	1.91	2.33	D. S. Franklin, Cobb, Fla.
Acid Phosphate	2263	......	18.55	4.68	23.23	......	......	D. S. Franklin, Cobb., Fla.
Fertilizer	2264	10.99	12.01	0.39	12.40	1.23	1.43	E. M. Pitts, Red Rock, Fla.
Fertilizer	2265	8.01	12.02	0.88	12.90	3.71	2.00	G. C. Johnson, Cobb, Fla.
Fertilizer	2266	9.75	7.21	0.52	7.73	2.30	3.05	W. W. Boyett, Otahite, Fla.
Fish	2267	......	4.72	16.95	21.67	5.08	......	W. H. Hansen, Jensen, Fla.
"Ashes" No. 204 (?)	2268	......	.....	......	......	......	19.90	The South. Fertz. Co., Orlando, Fla.
Fertilizer No. 205	2269	9.43	6.49	0.37	6.86	2.49	7.14	The South. Fertz. Co., Orlando, Fla.
Fertilizer	2270	......	10.94	0.57	11.51	2.50	2.07	H. L. Green, Bascom, Fla.
Fertilizer	2271	......	6.13	2.19	8.32	4.50	7.17	N. A. Carlson, Hollandale, Fla.
Cotton Seed Meal	2272	......	.....	......	......	7.61	......	L. Heimburger, Tallahassee, Fla.
Fertilizer No. 1	2273	12.46	10.73	0.41	11.14	2.97	3.35	Kraus, McFarlin Co., Quincy, Fla.
Fertilizer No.2 (L. & N.91015)	2274	8.92	12.04	0.26	12.30	1.61	2.95	Kraus, McFarlin Co., Quincy, Fla.
Fertilizer	2275	......	14.68	0.07	14.75	2.69	1.20	A. F. Moore, Hester, Fla.
Fertilizer	2276	4.90	6.97	0.96	7.93	4.46	12.25	J. H. Blake, Tampa, Fla.
Muriate of Potash	2277	......	.....	......	......	......	51.36	A. E. Taylor, Wilmarth, Fla.
Fertilizer No. 1	2278	10.40	9.04	0.81	9.85	1.98	2.33	J. W. Kelley, Otahite, Fla.
Fertilizer No. 2	2279	10.39	8.63	0.90	9.53	2.23	2.29	J. W. Kelley, Otahite, Fla.

Fertilizer No. 1	2280	10.45	9.94	0.52	9.93	4.65	4.27	J. R. Miller, Cobb, Fla.
Fertilizer No. 2	2281	8.82	9.51	1.16	10.67	2.83	6.03	J. R. Miller, Cobb, Fla.
Fertilizer No. 1	2282	......	15.50	1.02	16.52	1.13	0.83	A. D. Campbell, Chipley, Fla.
Fertilizer	2283	......	2.80	9.53	12.33	2.33	14.76	Frank Barthets, Gotha, Fla.
Cotton Seed Meal	2284	......	.....	......	......	7.65	......	Jake Brown, Ocala, Fla.
Cotton Seed Meal No. 3	2285	......	.....	......	......	7.50	......	D. D. Martin, Otahite, Fla.
Muriate of Potash No. 1	2286	......	.....	......	......	......	49.45	D. D. Martin, Otahite, Fla.
Acid Phosphate No. 2	2287	......	16.16	1.59	17.75	......	......	D. D. Martin, Otahite, Fla.
Fertilizer	2288	......	10.02	0.54	10.56	4.99	4.67	M. C. Herndon, Bristol, Fla.
Fertilizer	2289	12.64	11.76	1.54	13.30	2.44	2.10	J. S. Keith, Black, Ala.
Fertilizer	2290	8.34	10.14	2.61	12.75	1.80	1.38	H. A. Jones, Milton, Fla.
Fertilizer	2291	......	3.56	10.72	14.28	3.62	6.09	J. W. Walston, Bowling Green, Fla.
Fertilizer	2292	11.02	9.93	2.61	12.54	1.91	2.17	W. B. H. Adams, Milton, Fla.
Fertilizer	2293	......	11.75	0.17	11.92	2.83	1.71	Geo. W. Moore, Sr., Hester, Fla.
Fertilizer	2294	......	7.01	1.01	8.02	3.79	6.71	M. H. Tanner, Plant City, Fla.
Fertilizer "W. N. B. No. 1"	2295	......	8.55	2.42	10.97	2.23	1.94	A. L. Wilson Co., Quincy, Fla.
Fertilizer	2296	8.88	13.87	2.58	16.45	3.02	2.46	G. C. Johnson, Hester, Fla.
Fertilizer	2297	10.47	2.11	0.82	2.93	9.50	0.99	J. G. May, Ft. Pierce, Fla.
Fertilizer	2298	4.87	8.53	1.00	9.53	5.53	13.16	H. A. Ward, Winter Park, Fla.
Fertilizer	2299	10.83	10.13	0.91	11.04	4.10	2.38	W. P. Johnson, Cobb, Fla.
Fertilizer	2300	5.53	7.29	0.31	7.60	4.78	9.48	K. M. Stokes, Evans, Fla.
Fertilizer	2301	13.97	9.82	0.17	9.99	2.82	1.65	George W. Moore, Hester, Fla.
Fertilizer (Home Mixt.)	2302	......	8.06	0.09	8.15	1.94	9.86	H. A. Jones, Milton, Fla.
Guano No. 1	2303	40.30	3.35	5.90	9.25	2.11	1.68	W. R. Alexander, Marco, Fla.
Guano No. 2	2304	19.57	8.32	0.12	8.44	3.13	0.12	W. R. Alexander, Marco, Fla.
Fertilizer	2305	4.71	7.37	0.44	7.81	3.49	10.22	A. S. Nelson, Dunedin, Fla.
Fertilizer	2306	15.44	9.49	0.54	10.03	3.58	1.45	J. S. Howell, Chumuckla, Fla.
Fertilizer	2307	4.57	2.02	6.99	9.01	3.99	10.51	V. I. Carrier, Crescent City, Fla.
Fertilizer	2308	8.54	4.26	2.55	6.81	4.24	10.22	C. B. Morrow, Crescent City, Fla.
Fertilizer	2309	11.51	10.26	0.12	10.38	2.45	1.74	A. F. Moore, Hester, Fla.
Acid Phosphate No. 1	2310	......	15.43	0.55	15.98	......	......	A. N. Kelley, Holt, Fla.
Fertilizer No. 2	2311	10.42	7.18	0.70	7.88	......	4.88	A. N. Kelley, Holt, Fla.

SPECIAL FERTILIZER ANALYSES, 1910—Continued.

NAME, OR BRAND.	Laboratory Number.	Moisture.	Phosphoric Acid.			Ammonia.	Potash (K2O).	BY WHOM SENT.
			Available.	Insoluble.	Total.			
Fertilizer No. 3	2312	11.51	8.39	0.33	8.72	1.67	2.44	A. N. Kelley, Holt, Fla.
Fertilizer No. 1 (10-3-3)......	2313	9.58	10.43	0.51	10.94	3.72	3.61	Bristol Bargain Store, Bristol, Fla.
Fertilizer No. 2 (10-2-2)......	2314	10.90	9.86	0.42	10.28	2.51	2.77	Bristol Bargain Store, Bristol, Fla.
Fertilizer No. 3 (6-6-2)......	2315	9.96	6.07	0.42	6.49	5.48	3.06	Bristol Bargain Store, Bristol, Fla.
Fertilizer No. 4 (10-0-4)......	2316	9.70	9.83	0.79	10.62	......	4.38	Bristol Bargain Store, Bristol, Fla.
Raw Bone	2317	......	......	......	23.57	4.61	......	A. L. Beck, Orlando, Fla.
Fertilizer	2318	6.39	14.84	0.01	14.85	3.94	12.41	J. W. Wright, DeLand, Fla.
Fertilizer	2319	14.13	7.10	0.50	7.60	3.64	10.22	H. A. Perry, Pomona, Fla.
Fertilizer No. 1............	2320	......	10.88	4.50	15.38	4.42	4.40	Milton Cash Store, Milton, Fla.
Fertilizer No. 2............	2321	......	10.81	4.40	10.21	4.23	4.30	Milton Cash Store, Milton, Fla.
Fertilizer No. 1............	2322	8. 0	7.96	1.86	9.82	5.17	7.12	Armour Fertz. Wks.,Jacksonville,Fla.
Fertilizer No. 2............	2323	9.58	7.21	1.43	8.64	4.10	5.95	Armour Fertz. Wks.,Jacksonville,Fla.
Fertilizer No. 3............	2324	8.82	6.37	0.66	7.03	2.48	11.27	Armour Fertz. Wks.,Jacksonville,Fla.
Fertilizer No. 4............	2325	8.94	6.54	0.70	7.24	3.23	10.06	Armour Fertz. Wks.,Jacksonville,Fla.
Fertilizer No. 5............	2326	5.40	8.34	0.25	8.59	4.28	12.41	Armour Fertz. Wks.,Jacksonville,Fla.
Fertilizer No. 1............	2327	7.54	6.25	0.45	6.70	4.15	6.42	K. Richardson, Cocoanut Grove, Fla.
Fertilizer No. 2............	2328	8.35	6.70	1.76	8.46	4.27	9.87	K. Richardson, Cocoanut Grove, Fla.
Fertilizer No. 3............	2329	3.85	......	......	14.11	9.39	2.83	K. Richardson, Cocoanut Grove, Fla.
Fertilizer No. 10...........	2330	......	9.44	0.22	9.66	3.25	3.03	A. D. Campbell, Chipley, Fla.
Fertilizer No. 20...........	2331	......	9.94	0.23	10.17	2.19	6.54	A. D. Campbell, Chipley, Fla.

Fertilizer No. 30	2332	......	9.76	0.31	10.07	2.55	5.32	A. D. Campbell, Chipley, Fla.
Fertilizer	2333	13.13	6.68	0.28	6.96	2.73	13.01	H. A. Perry, Pomona, Fla.
Fertilizer	2334	......	8.44	0.73	9.17	2.78	6.08	B. E. McLin, Tallahassee, Fla.
Fertilizer	2335	5.35	......	......	11.88	6.95	4.50	J. G. May, Ft. Pierce, Fla.
Fertilizer	2336	......	5.95	1.37	7.32	4.51	4.45	J. R. Williams, Citra, Fla.
Fertilizer	2337	6.78	......	......	1.41	5.79	7.76	C. F. Wolf, Jensen, Fla.
Blood and Bone	2338	......	......	......	3.19	10.32	......	Jno. H. Blake, Tampa, Fla.
Fish Scrap No. 1	2339	13.68	......	......	12.92	8.55	......	Pensacola Rendering Co., Pensacola, Fla.
Fish Scrap No. 2	2340	10.64	......	......	13.58	10.03	......	Pensacola Rendering Co., Pensacola, Fla.
Dried Blood (N. Y. C. & H. R. No. 91406)	2341	......	......	......	......	15.38	......	E. O. Painter Fertz. Co., Jacksonville, Fla.
Fertilizer	2342	......	10.48	0.26	10.74	1.80	2.00	A. J. Strickland, Caryville, Fla.
Fertilizer No. 1	2343	5.67	7.29	0.83	8.12	4.73	6.51	T. Gaskins, Arcadia, Fla.
Fertilizer No. 2	2344	9.59	6.70	0.30	7.00	4.92	6.11	T. Gaskins, Arcadia, Fla.
Fertilizer No. 3	2345	8.12	7.14	0.71	7.85	2.98	4.36	T. Gaskins, Arcadia, Fla.
Fertilizer No. 4	2346	7.72	6.87	0.63	7.50	2.88	4.05	T. Gaskins, Arcadia, Fla.
Fish Scrap	2347	16.66	......	......	11.64	8.67	......	T. R. Parker, Pensacola, Fla.
Fertilizer (Tankage)	2348	......	......	......	13.25	2.60	......	Howard & Kennedy, Terra Ceia, Fla.
Fertilizer (C. M. Spec. E. T.)	2349	......	5.44	2.31	7.75	3.13	11.13	Independent Fertz. Co., Jacksonville, Fla.
Fertilizer (C. M. Spec. Y. Y.)	2350	......	6.56	2.42	8.98	3.83	7.41	Independent Fertz. Co., Jacksonville, Fla.
Kainit	2351	......	......	......	......	......	12.31	Jno. H. Blake, Tampa, Fla.
Fertilizer	2352	7.36	2.35	3.28	5.63	7.20	4.64	C. S. Bixby, Ft. Pierce, Fla.
Fertilizer	2353	7.08	6.04	5.93	11.97	3.60	8.57	Lewis, Coon & Platt, Cathaleen, Fla.
Cotton Seed Meal	2354	......	......	......	......	7.65	......	W. L Thompson, Lakeland, Fla.
Ashes	2355	......	......	......	......	......	3.43	The Gulf Fetz. Co., Tampa, Fla.

SPECIAL FERTILIZER ANALYSES, 1910—Continued.

NAME, OR BRAND.	Laboratory Number.	Moisture.	Phosphoric Acid.			Ammonia.	Potash (K_2O).	BY WHOM SENT.
			Available.	Insoluble.	Total.			
Acid Phosphate.............	2356	......	16.22	0.47	16.69	......	......	J. S. Howell, Chumuckla, Fla.
Fertilizer	2357	......	2.64	6.05	8.69	4.41	7.86	W. J. Kimball, Ft. Pierce, Fla.
Fertilizer	2358	......	1.30	1.30	2.60	6.45	5.17	C. Dunscombe, Stuart, Fla.
Fertilizer	2359	11.10	1.70	0.66	2.36	5.69	7.04	A. R. Mosier, Jensen, Fla.
Fertilizer No. 1..............	2360	9.11	5.31	0.69	6.00	5.81	3.35	Ocala Fertz. Co., Ocala, Fla.
Fertilizer No. 2..............	2361	9.63	5.41	0.51	5.92	3.79	7.68	Ocala Fertz. Co., Ocala, Fla.
Fertilizer No. 3..............	2362	7.63	5.80	1.09	6.39	3.91	9.29	Ocala Fertz. Co., Ocala, Fla.
Steamed Bone Meal..........	2363	......	......	......	26.07	1.75	......	G. O. McPhail, Pensacola, Fla.
Fertilizer	2364	8.52	2.41	1.19	3.60	7.84	10.04	E. A. Brewer Hollandale, Fla.
Hard Wood Ashes..........	2365	......	......	......	......	......	2.79	Chase & Co., Sanford, Fla.
Fertilizer	2366	......	6.34	0.74	7.08	6.10	7.58	S. C. Gates, Manatee, Fla.
Steamed Bone Meal No. 1....	2367	......	......	......	32.22	1.20	......	C. S. VanHorten, Orlando, Fla.
Steamed Bone Meal No. 2....	2368	......	......	......	24.38	3.64	......	C. S. VanHorten, Orlando, Fla.
Steamed Bone Meal No. 3....	2369	......	......	......	25.06	3.42	......	C. S. VanHorten, Orlando, Fla.
Fertilizer	2370	4.39	5.53	4.39	9.92	4.85	13.22	H. A. Perry, Pomona, Fla.
Fertilizer	2371	8.09	7.60	0.97	8.57	4.85	7.79	James Campbell, Winter Park, Fla.
Fertilizer	2372	8.33	5.47	0.47	5.94	5.28	5.33	R. C. Hooks, Clermont, Fla.
Fertilizer No. 2..............	2373	7.30	4.23	0.53	4.76	5.48	5.86	R. C. Hooks, Clermont, Fla.
Blood and Bone.............	2374	......	......	......	6.58	10.05	......	A. R. Mosier, Jensen, Fla.
Fertilizer	2375	5.75	8.82	0.12	8.94	4.04	12.00	John M. Lee, Kissimmee, Fla.

Fertilizer (Pineapple Mixt.)	2376	......	.. ...	......	8.05	5.57	4.01	M. M. Gaston, Punta Gorda, Fla.
Fertilizer	2377	......	6.16	0.62	6.78	2.62	8.28	R. S. Cohoon, Orlando, Fla.
Fertilizer	2378	......	3.92	0.21	4.13	6.65	4.56	H. E. Spencer, West Palm Beach,Fla.
Blood and Bone No. 1	2379	......	.. ...	......	11.85	6.02	......	W. R. Hardee, Jensen, Fla.
Blood and Bone No.2	2380	......	.. ...	......	11.30	7.59	......	W. R. Hardee, Jensen, Fla.
Blood and Bone No. 3	2381	......	.. ...	......	9.26	6.59	......	W. R. Hardee, Jensen, Fla.
Blood and Bone	2382	......	.. ...	......	11.70	8.32	......	A. R. Mosier, Jensen, Fla.
Fertilizer No. 1	2383	5.90	10.13	3.89	14.02	2.01	7.64	E. R. Watson, Arcadia, Fla.
Fertilizer No. 2	2384	3.29	7.18	4.74	11.92	0.55	14.54	E. R. Watson, Arcadia, Fla.
Fertilizer No. 3	2385	4.49	4.85	8.18	13.03	3.46	5.93	E. R. Watson, Arcadia, Fla.
Fertilizer	2386	7.74	4.80	7.64	12.44	4.40	10.37	C. M. Mallet, Orlando, Fla.
Fertilizer	2387	12.01	6.95	0.34	7.29	3.65	8.57	M. Cosner, Kissimmee, Fla.
Fertilizer No. 3	2388	6.30	1.74	0.35	2.59	7.49	6.23	Carroll Dunscombe, Stuart, Fla.

DEPARTMENT OF AGRICULTURE—DIVISION OF CHEMISTRY.

FERTILIZER SECTION.

R. E. ROSE, State Chemist. OFFICIAL FERTILIZER ANALYSES, 1910. L. HEIMBURGER, Asst. Chemist.

Samples Taken by State Chemist Under Sections 1 and 2, Act Approved May 22, 1905.

NAME, OR BRAND.	Laboratory Number.		Moisture.	Phosphoric Acid.			Ammonia.	Potash (K_2O).	BY WHOM AND WHERE MANUFACTURED.
				Available.	Insoluble.	Total.			
Nitrate of Potash	1452	Guarant'd Analysis	......	......	......	......	15.00	43.00	E. O. Painter Fertz. Co.,
		Official Analysis...	......	......	......	......	14.25	42.64	Jacksonville, Fla.
Bean Fertilizer	1453	Guarant'd Analysis	10.00	5.00	1.00	......	5.00	5.00	The Armour Fertz. Wks.,
		Official Analysis...	8.01	5.27	0.92	6.19	4.92	5.82	Jacksonville, Fla.
Mapes' Fruit and Vine Manure	1454	Guarant'd Analysis	10.00	5.00	2.00	......	2.00	10.00	Mapes' For. & Peruvian
		Official Analysis...	8.63	5.32	3.72	9.04	2.79	11.44	Guano Co., New York.
Mapes' Vegetable Manure.	1455	Guarant'd Analysis	12.00	6.00	2.00	......	5.00	4.00	Mapes' For. & Peruvian
		Official Analysis...	9.60	5.91	3.69	9.60	5.43	5.66	Guano Co., New York.
H. G. Blood and Bone....	1456	Guarant'd Analysis	10.00	3.00	1.50	......	10.00	......	Independent Fertz. Co.,
		Official Analysis...	......	2.52	1.37	3.89	10.59	......	Jacksonville, Fla.
H. G. Sulphate of Potash..	1457	Guarant'd Analysis	10.00	......	......	......	......	48.00	Independent Fertz. Co.,
		Official Analysis...	......	......	......	......	......	50.88	Jacksonville, Fla.

Dried Blood	1458	Guarant'd Analysis	12.00	......	......	......	16.00	......	Independent Fertz. Co.,
		Official Analysis...	......	......	......	......	17.24	......	Jacksonville, Fla.
Hard Wood Ashes........	1459	Guarant'd Analysis	15.00	......	......	......	......	4.00	Independent Fertz. Co.,
		Official Analysis...	......	......	......	......	......	2.25	Jacksonville, Fla.
H. G. Acid Phosphate....	1460	Guarant'd Analysis	10.00	16.00	0.50	......	......	......	Independent Fertz. Co.,
		Official Analysis...	......	18.79	0.02	18.81	......	......	Jacksonville, Fla.
Prime Bright Cotton Seed Meal	1461	Guarant'd Analysis	......	......	......	......	7.50	......	Independent Fertz. Co.,
		Official Analysis...	......	......	......	......	7.62	......	Jacksonville, Fla.
H. G. Ky. Tobacco Stems..	1462	Guarant'd Analysis	10.00	......	......	......	2.00	7.00	Independent Fertz. Co.,
		Official Analysis...	......	......	......	......	2.58	9.64	Jacksonville, Fla.
Favorite Non-Ammoniated Special	1463	Guarant'd Analysis	10.00	10.00	1.00	......	......	11.00	Independent Fertz. Co.,
		Official Analysis...	8.17	10.37	0.17	10.54	......	10.97	Jacksonville, Fla.
Simon Pure Tomato......	1464	Guarant'd Analysis	8.00	4.00	3.00	......	5.00	9.00	E. O. Painter Fertz. Co.,
		Official Analysis...	6.65	6.03	2.52	8.55	5.96	9.97	Jacksonville, Fla.
Simon Pure Rose Special.	1465	Guarant'd Analysis	8.00	3.50	1.75	......	4.50	5.25	E. O. Painter Fertz. Co.,
		Official Analysis...	8.26	4.41	1.50	5.91	5.30	7.60	Jacksonville, Fla.
Simon Pure No. 1........	1466	Guarant'd Analysis	8.00	6.00	1.00	......	4.00	12.00	E. O. Painter Fertz. Co.,
		Official Analysis...	6.98	5.80	0.03	5.83	4.05	13.13	Jacksonville, Fla.
Gem Special	1467	Guarant'd Analysis	5.00	5.00	3.00	......	4.00	6.00	E. O. Painter Fertz. Co.,
		Official Analysis...	5.63	6.33	0.25	6.58	4.35	6.67	Jacksonville, Fla.

OFFICIAL FERTILIZER ANALYSES, 1910—Continued.

NAME, OR BRAND.	Laboratory Number.		Moisture.	Phosphoric Acid.			Ammonia.	Potash (K_2O)	BY WHOM AND WHERE MANUFACTURED.
				Available.	Insoluble.	Total.			
Gem Fruit and Vine......	1468	Guarant'd Analysis	8.00	6.00	1.00	......	3.00	10.00	E. O. Painter Fertz. Co.,
		Official Analysis...	6.21	6.57	1.05	7.62	3.32	11.17	Jacksonville, Fla.
Simon Pure No. 2.........	1469	Guarant'd Analysis	8.00	6.00	2.00	......	4.00	6.00	E. O. Painter Fertz. Co.,
		Official Analysis...	5.73	6.79	2.06	8.85	4.72	7.97	Jacksonville, Fla.
Sulphate of Ammonia.....	1470	Guarant'd Analysis	......	......	......	......	25.00	......	E. O. Painter Fertz. Co.,
		Official Analysis...	......	......	......	......	25.80	......	Jacksonville, Fla.
Lawn Special	1471	Guarant'd Analysis	10.00	7.00	1.00	......	6.50	5.00	E. O. Painter Fertz. Co.,
		Official Analysis...	4.99	6.13	0.33	6.46	8.02	8.10	Jacksonville, Fla.
Seminole Tree Grower....	1472	Guarant'd Analysis	8.00	6.00	......	......	4.00	8.00	Wilson & Toomer Fertz.
		Official Analysis...	8.79	6.45	0.86	7.31	4.04	8.69	Co., Jacksonville, Fla.
W. & T.'s Special Fruit and	1473	Guarant'd Analysis	10.00	6.00	1.00	......	4.00	13.00	Wilson & Toomer Fertz.
Vine Manure		Official Analysis...	9.01	7.18	0.11	7.29	4.26	12.72	Co., Jacksonville, Fla.
Williams & Clark Fruit and	1474	Guarant'd Analysis	10.00	5.50	3.00	......	2.25	10.00	Am. Agr. Chemical Co.,
Vine		Official Analysis...	6.81	6.32	0.98	7.30	2.31	9.81	Jacksonville, Fla.

Bradley Florida Vegetable.	1475	Guarant'd Analysis	10.00	6.00	1.00	......	4.00	5.00	Am. Agr. Chemical Co., Jacksonville, Fla.
		Official Analysis...	7.75	6.79	1.16	7.95	4.26	5.70	
Williams & Clark Florida Vegetable	1476	Guarant'd Analysis	10.00	6.00	1.00	......	4.00	5.00	Am. Agr. Chemical Co., Jacksonville, Fla.
		Official Analysis...	8.30	7.24	0.84	8.08	4.15	4.38	
Bradley Fruit and Vine..	1477	Guarant'd Analysis	10.00	5.50	1.00	......	2.25	10.00	Am. Agr. Chemical Co., Jacksonville, Fla.
		Official Analysis...	6.57	6.32	0.77	7.09	2.44	10.70	
Lazaretto Early Trucker..	1478	Guarant'd Analysis	8.00	7.00	2.00	......	5.00	5.00	Am. Agr. Chemical Co., Jacksonville, Fla.
		Official Analysis...	9.71	8.19	1.51	9.70	4.82	5.43	
Williams & Clark Nursery Stock	1479	Guarant'd Analysis	10.00	8.00	1.00	......	4.50	3.00	Am. Agr. Chemical Co., Jacksonville, Fla.
		Official Analysis...	9.73	8.65	1.02	9.67	4.29	3.57	
Williams & Clark Special Fruit and Vine..........	1480	Guarant'd Analysis	10.00	5.50	3.00	......	4.25	10.00	Am. Agr. Chemical Co., Jacksonville, Fla.
		Official Analysis...	10.11	7.05	1.66	8.71	4.60	7.60	
Bradley Orange Tree......	1481	Guarant'd Analysis	10.00	6.00	1.00	......	3.50	5.00	Am. Agr. Chemical Co., Jacksonville, Fla.
		Official Analysis...	7.55	7.17	0.68	7.85	3.70	4.71	
Peruvian Orange Tree Grower	1482	Guarant'd Analysis	8.00	6.00	2.00	......	5.00	8.00	Wilson & Toomer Fertz. Co., Jacksonville, Fla.
		Official Analysis...	9.10	6.65	2.22	8.87	5.25	10.08	
Special Mixture No. 1....	1483	Guarant'd Analysis	8.00	6.00	1.00	......	5.00	5.00	Wilson & Toomer Fertz. Co., Jacksonville, Fla.
		Official Analysis...	9.86	6.15	1.78	7.93	5.31	5.66	
Ideal Vegetable Manure...	1485	Guarant'd Analysis	8.00	6.00	1.00	......	4.00	8.00	Wilson & Toomer Fertz. Co., Jacksonville, Fla.
		Official Analysis...	9.77	6.29	0.95	7.24	4.51	7.60	

OFFICIAL FERTILIZER ANALYSES, 1910—Continued.

NAME, OR BRAND.	Laboratory Number.		Moisture.	Phosphoric Acid.			Ammonia.	Potash (K₂O).	BY WHOM AND WHERE MANUFACTURED.
				Available.	Insoluble.	Total.			
Ideal Sugar Cane Fertilizer	1486	Guarant'd Analysis	10.00	7.00	......	......	3.00	4.00	Wilson & Toomer Fertz. Co., Jacksonville, Fla.
		Official Analysis...	11.25	6.65	1.20	7.85	3.33	5.49	
Spec. Mixt. for Cowpenned or Over-Am'oniated Trees	1487	Guarant'd Analysis	10.00	8.00	......	......	......	13.00	Wilson & Toomer Fertz. Co., Jacksonville, Fla.
		Official Analysis...	5.82	8.50	1.93	10.43	......	12.58	
Kainit	1488	Guarant'd Analysis	......	......	......	......	......	12.00	Wilson & Toomer Fertz. Co., Jacksonville, Fla.
		Official Analysis...	......	......	......	......	......	15.03	
Complete Sweet Potato Fertilizer	1489	Guarant'd Analysis	10.00	8.00	1.00	......	2.50	3.50	Wilson & Toomer Fertz. Co., Jacksonville, Fla.
		Official Analysis...	13.22	8.33	1.36	9.69	2.68	4.56	
Armour's Fruit and Vine..	1490	Guarant'd Analysis	10.00	6.00	1.00	......	2.50	11.00	The Armour Fertz. Wks., Jacksonville, Fla.
		Official Analysis...	6.15	6.30	0.28	6.67	3.30	11.04	
Armour's Blood, Bone and Potash	1491	Guarant'd Analysis	10.00	8.00	1.00	......	5.00	7.00	The Armour Fertz. Wks., Jacksonville, Fla.
		Official Analysis...	8.48	7.65	2.35	10.00	5.10	7.68	
Armour's Vegetable	1492	Guarant'd Analysis	10.00	7.00	2.00	......	4.00	6.00	The Armour Fertz. Wks., Jacksonville, Fla.
		Official Analysis...	9.23	6.93	1.17	8.10	3.58	6.68	

Special Mixture	1493	Guarant'd Analysis	......	8.00	......	......	......	15.00	The Armour Fertz.Wks.,
		Official Analysis...	9.01	8.77	0.21	8.98	......	13.36	Jacksonville, Fla.
Armour's Practical Trucker	1494	Guarant'd Analysis	10.00	6.00	2.00	......	3.00	10.00	The Armour Fertz.Wks.,
		Official Analysis...	8.07	5.80	0.92	6.72	2.72	10.92	Jacksonville, Fla.
Armour's Orange Fruiter..	1495	Guarant'd Analysis	10.00	8.00	1.00	......	4.00	12.00	The Armour Fertz.Wks.,
		Official Analysis...	6.33	7.95	0.52	8.47	4.35	11.89	Jacksonville, Fla.
Goulding's Bone Compound	1496	Guarant'd Analysis	16.00	8.00	2.00	......	2.00	2.00	The Goulding Fertz. Co.,
		Official Analysis...	10.22	8.73	1.45	10.18	3.08	2.00	Pensacola, Fla.
Goulding's 16% Acid Phosphate	1497	Guarant'd Analysis	16.00	16.00	2.00	......	......	......	The Goulding Fertz. Co.,
		Official Analysis...	......	16.89	0.36	17.25	......	......	Pensacola, Fla.
Cuke Special	1498	Guarant'd Analysis	8.00	5.00	1.00	......	5.00	8.00	The Gulf Fertz. Co.,
		Official Analysis...	9.64	5.55	0.04	5.59	4.40	10.72	Tampa, Fla.
Orange Fruiter	1499	Guarant'd Analysis	10.00	6.00	1.00	7.00	4.00	11.00	The Gulf Fertz. Co.,
		Official Analysis...	5.87	7.05	0.25	7.30	4.64	11.07	Tampa, Fla.
Orange Tree Grower......	1500	Guarant'd Analysis	8.00	6.00	1.00	7.00	5.00	6.00	The Gulf Fertz. Co.,
		Official Analysis...	7.67	6.61	0.83	7.43	5.40	7.37	Tampa, Fla.
Cane and Corn Special....	1501	Guarant'd Analysis	8.00	6.00	1.00	7.00	3.00	5.00	The Gulf Fertilizer Co.,
		Official Analysis...	7.83	7.06	1.30	8.36	3.68	5.88	Tampa, Fla.
Tomato Special	1502	Guarant'd Analysis	8.00	5.00	1.00	......	4.00	8.00	The Gulf Fertilizer Co.,
		Official Analysis...	10.23	6.52	0.88	7.40	4.63	9.77	Tampa, Fla.
Special Fruit and Vine....	1503	Guarant'd Analysis	8.00	6.00	1.00	7.00	3.00	13.00	The Gulf Fertilizer Co.,
		Official Analysis...	7.07	6.70	0.25	6.95	3.45	14.31	Tampa, Fla.

OFFICIAL FERTILIZER ANALYSES, 1910.—Continued.

NAME, OR BRAND.	Laboratory Number.		Moisture.	Phosphoric Acid.			Ammonia.	Potash (K$_2$O).	BY WHOM AND WHERE MANUFACTURED.
				Available.	Insoluble.	Total.			
Armour's Fruit and Vine..	1504	Guarant'd Analysis	10.00	6.00	1.00	......	2.50	11.00	The Armour Fertz Wks,
		Official Analysis...	6.80	6.25	1.28	7.53	2.68	11.07	Jacksonville, Fla.
Armour's Blood, Bone and	1505	Guarant'd Analysis	10.00	8.00	1.00	......	5.00	7.00	The Armour Fertz.Wks.,
Potash		Official Analysis...	7.43	7.95	2.26	10.21	5.05	7.31	Jacksonville, Fla.
Mapes Orange Tree Ma-	1506	Guarant'd Analysis	12.00	6.00	2.00	......	4.00	3.00	The Mapes Formula and
nure		Official Analysis...	12.94	9.28	1.83	11.11	4.32	3.76	Peruvian Guano Co., New York, N. Y.
Armour's Watermelon Spe-	1507	Guarant'd Analysis	10.00	5.00	1.00	......	3.00	8.00	The Armour Fertz.Wks.,
cial		Official Analysis...	7.08	5.36	1.41	6.77	3.30	8.74	Jacksonville, Fla.
Lettuce Special	1508	Guarant'd Analysis	10.00	3.00	2.00	......	7.00	4.00	The Armour Fertz.Wks.,
		Official Analysis...	13.60	3.24	1.05	4.29	6.19	4.29	Jacksonville, Fla.
H. G. Sulfate of Potash....	1509	Guarant'd Analysis	5.00	......	......	......	......	50.00	The Armour Fertz.Wks.,
		Official Analysis...	......	......	......	......	......	50.40	Jacksonville, Fla.
Tampa Fruiter	1510	Guarant'd Analysis	8.00	6.00	1.00	......	4.00	12.00	The Tampa Fertilizer
		Official Analysis...	5.04	6.56	2.58	9.14	4.18	13.79	Co., Tampa, Fla.

Irish Potato	1511	Guarant'd Analysis	8.00	6.00	2.00	......	4.00	8.00	The Tampa Fertilizer
		Official Analysis...	5.81	10.97	0.53	11.50	4.48	9.21	Co., Tampa, Fla.
Germofert Vegetable......	1512	Guarant'd Analysis	5.00	5.00	7.00	......	4.00	6.00	The Tampa Fertilizer
		Official Analysis...	6.42	3.28	9.34	12.62	4.08	5.89	Co., Tampa, Fla.
One Third Mixture........	1513	Guarant'd Analysis	8.00	6.50	1.00	......	2.50	4.50	The Tampa Fertilizer
		Official Analysis...	7.45	6.62	0.57	7.19	3.27	5.43	Co., Tampa, Fla.
Cane Special	1514	Guarant'd Analysis	8.00	6.00	2.00	......	5.00	4.00	The Tampa Fertilizer
		Official Analysis...	5.96	5.89	6.26	12.15	4.78	6.13	Co., Tampa, Fla.
Germofert Orange Tree Grower	1515	Guarant'd Analysis	5.00	3.00	9.00	......	4.00	5.00	The Tampa Fertilizer
		Official Analysis...	4.57	3.22	10.35	13.57	4.50	6.63	Co., Tampa, Fla.
Corn Special Fertilizer...	1516	Guarant'd Analysis	10.00	8.00	1.00	......	2.00	3.00	The Tampa Fertilizer
		Official Analysis...	8.46	7.75	3.49	11.24	1.97	3.32	Co., Tampa, Fla.
Germofert Fruit and Vine..	1517	Guarant'd Analysis	5.00	3.00	9.00	12.00	2.00	12.00	The Tampa Fertilizer
		Official Analysis...	3.78	2.78	9.32	12.10	2.98	13.61	Co., Tampa, Fla.
Germofert Corn Special..	1518	Guarant'd Analysis	5.00	3.00	9.00	12.00	2.00	3.00	The Tampa Fertilizer
		Official Analysis...	3.89	3.67	12.71	16.38	2.09	3.76	Co., Tampa, Fla.
Acid Phosphote	1519	Guarant'd Analysis	......	16.00	......	......	......	......	The Tampa Fertilizer
		Official Analysis...	......	17.63	0.38	18.01	......	......	Co., Tampa, Fla.
German Kainit	1520	Guarant'd Analysis	......	......	......	......	......	12.00	Wilson & Toomer Fertz.
		Official Analysis...	......	......	......	......	......	12.47	Co., Jacksonville, Fla.
Ideal Tomato Special.....	1521	Guarant'd Analysis	8.00	6.00	......	......	5.00	5.00	Wilson & Toomer Fertz.
		Official Analysis...	9.41	5.92	2.56	8.48	5.12	6.01	Co., Jacksonville, Fla.

OFFICIAL FERTILIZER ANALYSES, 1910.—Continued.

NAME, OR BRAND.	Laboratory Number.		Moisture.	Phosphoric Acid. Available.	Phosphoric Acid. Insoluble.	Phosphoric Acid. Total.	Ammonia.	Potash (K_2O).	BY WHOM AND WHERE MANUFACTURED.
Spec. Mix. for Cowpen'd or over-Ammoniated Trees..	1522	Guarant'd Analysis	10.00	8.00	......	......	......	13.00	Wilson & Toomer Fertz. Co., Jacksonville, Fla.
		Official Analysis...	3.79	6.96	3.30	10.26	......	13.88	
Ideal Lettuce Fertilizer...	1523	Guarant'd Analysis	10.00	6.00	......	......	6.00	6.00	Wilson & Toomer Fertz. Co., Jacksonville, Fla.
		Official Analysis...	8.17	6.60	2.28	8.88	5.80	5.86	
No. 1 Peruvian & Fish Guano Mixture	1524	Guarant'd Analysis	12.00	5.00	1.00	......	4.00	5.00	Fla. Fertz. Co., Branch, Gainesville, Fla.
		Official Analysis...	5.64	5.75	1.33	7.08	4.59	4.05	
Lettuce and Cuke Special.	1525	Guarant'd Analysis	12.00	5.00	1.00	......	6.50	4.00	Florida Fertilizer Co., Gainesville, Fla.
		Official Analysis...	9.77	6.08	1.97	8.05	5.13	3.47	
V. C. Tip Top Tomato Trucker	1526	Guarant'd Analysis	8.00	7.00	1.00	......	4.00	5.00	Florida Fertilizer Co., Gainesville, Fla.
		Official Analysis...	6.70	7.20	1.60	8.80	3.49	6.81	
Fish and Potash	1527	Guarant'd Analysis	12.00	2.50	2.50	......	6.50	5.00	Florida Fertilizer Co., Gainesville, Fla.
		Official Analysis...	10.46	2.15	2.70	4.85	5.60	5.80	
No. 2 Orange Tree Mixture	1528	Guarant'd Analysis	12.00	6.00	2.00	......	3.00	5.00	Florida Fertilizer Co., Gainesville, Fla.
		Official Analysis...	5.43	7.26	1.72	8.98	3.38	5.35	

Corn Special	1529	Guarant'd Analysis	10.00	7.00	......	......	2.50	4.00	Ocala Fertilizer Co.,
		Official Analysis...	11.59	6.62	1.03	7.65	2.39	4.04	Ocala, Fla.
"Superior Watermelon &	1530	Guarant'd Analysis	10.00	8.00	......	......	4.50	8.00	Ocala Fertilizer Co.,
Cantaloupe Special"		Official Analysis...	11.94	9.21	0.50	9.71	4.12	7.77	Ocala, Fla.
Tomato Fertilizer	1531	Guarant'd Analysis	10.00	6.00	......	......	4.00	9.00	Ocala Fertilizer Co.,
		Official Analysis...	10.58	5.17	1.16	6.33	3.94	9.13	Ocala, Fla.
Bean Fertilizer	1532	Guarant'd Analysis	10.00	6.00	......	......	3.00	6.00	Ocala Fertilizer Co.,
		Official Analysis...	10.69	5.44	0.59	6.03	2.98	6.94	Ocala, Fla.
Superior Fertz. for General	1533	Guarant'd Analysis	10.00	6.00	1.00	......	4.00	8.00	Ocala Fertilizer Co.,
Trucking		Official Analysis...	11.78	4.21	3.46	7.67	3.97	7.15	Ocala, Fla.
Special Lettuce	1534	Guarant'd Analysis	......	5.00	......	......	7.00	4.00	Ocala Fertilizer Co.,
		Official Analysis...	10.26	5.40	0.20	5.60	4.93	5.00	Ocala, Fla.
Acid Phosphate	1535	Guarant'd Analysis	......	16.00	......	......	......	......	Ocala Fertilizer Co.,
		Official Analysis...	......	18.17	0.40	18.57	......	......	Ocala, Fla.
Standard Corn Special....	1536	Guarant'd Analysis	......	6.00	1.00	7.00	3.00	5.00	Standard Fertilizer Co.,
		Official Analysis...	14.13	5.28	0.91	6.19	2.35	4.34	Gainesville, Fla.
Standard Vegetable No. 1..	1537	Guarant'd Analysis	8.00	5.00	1.00	6.00	4.50	6.00	Standard Fertilizer Co.,
		Official Analysis...	14.81	4.96	0.86	5.82	3.35	7.70	Gainesville, Fla.
Standard Fish and Potash.	1538	Guarant'd Analysis	11.00	4.00	1.00	5.00	6.00	6.00	Standard Fertilizer Co.,
		Official Analysis...	14.89	2.47	1.08	3.55	4.54	8.10	Gainesville, Fla.
Special Mixture for Cotton	1539	Guarant'd Analysis	......	6.00	......	......	2.00	3.00	Standard Fertilizer Co.,
		Official Analysis...	9.42	5.68	1.20	6.88	2.69	3.97	Gainesville, Fla.

OFFICIAL FERTILIZER ANALYSES, 1910.—Continued.

NAME, OR BRAND.	Laboratory Number.		Moisture.	Phosphoric Acid.			Ammonia.	Potash (K_2O).	BY WHOM AND WHERE MANUFACTURED.
				Available.	Insoluble.	Total.			
Cotton Seed Meal........	1540	Guarant'd Analysis	......	......	......	......	7.50	......	Florida Cotton Oil Co., Jacksonville, Fla.
		Official Analysis...	......	......	......	......	6.57	......	
Cotton Seed Meal........	1541	Guarant'd Analysis	......	......	......	......	4.75	......	Florida Cotton Oil Co., Jacksonville, Fla.
		Official Analysis...	......	......	......	......	4.23	......	
Prime Cotton Seed Meal..	1542	Guarant'd Analysis	......	......	......	......	7.50	......	Ala. Cotton Oil Co., Montgomery, Ala.
		Official Analysis...	......	......	......	......	6.67	......	
Sea Gull Soluble Guano..	1543	Guarant'd Analysis	10.00	8.00	2.00	......	2.00	2.00	Va.-Car. Chemical Co., Montgomery, Ala.
		Official Analysis...	12.01	9.16	1.25	10.41	1.83	2.04	
Jumbo Peruvian Guano Crop Grower	1544	Guarant'd Analysis	10.00	8.00	2.00	......	3.00	3.00	Va.-Car. Chemical Co., Montgomery, Ala.
		Official Analysis...	12.83	6.53	5.45	11.98	2.49	3.39	
Formula 44	1545	Guarant'd Analysis	8.00	7.00	1.00	......	3.10	3.50	Va.-Car. Chemical Co., Savannah, Ga.
		Official Analysis...	6.94	7.33	5.24	12.57	3.44	2.73	
Phospho-Alkali with Potassium Nitrates	1546	Guarant'd Analysis	10.00	7.00	1.00	......	2.50	10.00	Va.-Car. Chemical Co., Savannah, Ga.
		Official Analysis...	7.76	8.77	1.70	10.47	3.19	8.40	

Goulding's Meal Mixture..	1547	Guarant'd Analysis	10.00	10.00	2.00	......	1.00	1.00	The Goulding Fertz Co.,
		Official Analysis...	12.06	10.30	0.49	10.79	1.01	1.34	Pensacola, Fla.
Goulding's 16% Acid Phos.	1548	Guarant'd Analysis	16.00	16.00	2.00	......	......	......	The Goulding Fertz. Co.,
		Official Analysis...	......	17.67	0.71	18.38	......	......	Pensacola, Fla.
Goulding's Bone Compound	1549	Guarant'd Analysis	16.00	8.00	2.00	......	2.00	2.00	The Goulding Fertz. Co.,
		Official Analysis...	10.78	8.96	1.34	10.30	2.17	2.33	Pensacola, Fla.
Goulding's H. G. English Guano	1550	Guarant'd Analysis	16.00	10.00	2.00	......	2.00	2.00	The Goulding Fertz. Co.,
		Official Analysis...	10.81	10.39	1.21	11.60	2.82	1.74	Pensacola, Fla.
Favorite Blood, Bone & Potash for Vegetables	1551	Guarant'd Analysis	10.00	8.00	1.00	......	5.00	7.00	Independent Fertz. Co.,
		Official Analysis...	7.31	6.91	1.77	8.68	3.73	8.47	Jacksonville, Fla.
Sanders' Bean Fertilizer..	1552	Guarant'd Analysis	10.00	6.00	1.00	......	3.00	6.00	G.W. Sanders Fertz. Co.,
		Official Analysis...	9.36	7.61	0.64	8.25	2.97	6.34	Jacksonville, Fla.
Sanders' Corn Fertilizer..	1553	Guarant'd Analysis	10.00	5.00	1.00	......	3.00	2.00	G.W. Sanders Fertz. Co.,
		Official Analysis...	7.85	4.59	3.30	7.89	2.89	3.53	Jacksonville, Fla.
Kainit	1554	Guarant'd Analysis	......	......	......	......	......	12.00	G.W. Sanders Fertz. Co.,
		Official Analysis...	......	......	......	......	......	11.73	Jacksonville, Fla.
Nitrate of Soda...........	1555	Guarant'd Analysis	......	......	......	......	17.00	......	G.W. Sanders Fertz. Co.,
		Official Analysis...	......	......	......	......	18.13	......	Jacksonville, Fla.
Armour's Corn Special....	1556	Guarant'd Analysis	10.00	6.00	1.00	......	3.00	6.00	The Armour Fertz Wks.,
		Official Analysis...	9.48	6.22	1.40	7.62	3.20	5.66	Jacksonville, Fla.
Special Mixture (for Tobacco)	1557	Guarant'd Analysis	10.00	7.50	7.50	......	2.00	18.00	The Armour Fertz. Wks.,
		Official Analysis...	11.03	10.90	6.55	17.45	2.11	16.38	Jacksonville, Fla.

OFFICIAL FERTILIZER ANALYSES, 1910.—Continued.

NAME, OR BRAND.	Laboratory Number.		Moisture.	Phosphoric Acid.			Ammonia.	Potash (K_2O).	BY WHOM AND WHERE MANUFACTURED.
				Available.	Insoluble.	Total.			
Standard Cotton Fertilizer.	1558	Guarant'd Analysis	10.00	8.00	2.00	......	2.00	2.00	The Southern Cotton Oil Co., Pensacola, Fla.
		Official Analysis...	13.63	8.45	1.43	9.88	1.79	2.71	
Cotton Seed Meal........	1559	Guarant'd Analysis	......	......	......	2.50	7.50	1.50	Florida Cotton Oil Co., Tallahassee, Fla.
		Official Analysis...	......	......	......	......	7.98	......	
Farmer's Fish Guano.....	1560	Guarant'd Analysis	10.00	10.00	2.00	......	2.00	2.00	Farmers' Fertz. Co., Montgomery, Ala.
		Official Analysis...	13.51	11.41	2.02	13.43	2.05	2.35	
Charles Elis' Cumberland Fertilizer	1561	Guarant'd Analysis	14.00	8.00	1.00	......	2.00	2.00	Mutual Fertilizer, Savannah, Ga.
		Official Analysis...	9.66	8.28	1.17	9.45	2.30	2.33	
No. 1 Genuine Peruvian Guano	1562	Guarant'd Analysis	......	9.00	......	......	5.93	2.25	Peruvian Guano Corporation, Charleston, S.C.
		Official Analysis...	14.14	7.12	8.25	15.37	5.36	2.56	
Genuine Peruvian Guano..	1563	Guarant'd Analysis	......	8.00	......	......	3.98	2.00	Peruvian Guano Corporation, Charleston, S.C.
		Official Analysis...	7.76	5.68	7.07	12.75	3.92	2.00	
Genuine Peruvian Guano..	1564	Guarant'd Analysis	......	9.00	......	......	2.98	2.00	Peruvian Guano Corporation, Charleston, S C.
		Official Analysis...	12.35	6.96	8.87	15.83	3.18	2.11	

Second Class Cotton Seed Meal	1565	Guarant'd Analysis	......	......	......	2.25	7.00	1.50	Cuthbert Oil Co., Cuthbert, Ga.
		Official Analysis...	......	......	......	......	7.05	......	
No. 3	1566	Guarant'd Analysis	8.00	6.00	2.00	......	4.00	10.00	Southern Fertzilizer Co., Orlando, Fla.
		Official Analysis...	9.48	5.36	0.73	6.09	4.03	9.95	
Extra Fruit and Vine	1567	Guarant'd Analysis	8.00	6.00	1.00	......	2.00	14.00	Southern Fertilizer Co., Orlando, Fla.
		Official Analysis...	8.35	6.06	0.61	6.67	2.10	13.84	
No. 4	1568	Guarant'd Analysis	8.00	6.00	2.00	......	3.00	10.00	Southern Fertilizer Co., Orlando, Fla.
		Official Analysis...	10.93	6.08	0.81	6.89	3.09	9.03	
No. 1	1569	Guarant'd Analysis	8.00	5.00	2.00	......	5.00	4.00	Southern Fertilizer Co., Orlando, Fla.
		Official Analysis...	6.53	5.85	0.74	6.59	5.18	4.57	
Vegetable Fertilizer	1570	Guarant'd Analysis	8.00	6.00	2.00	......	5.00	6.00	Southern Fertilizer Co., Orlando, Fla.
		Official Analysis...	11.04	5.92	0.76	6.68	4.82	6.11	
Special for Corn	1571	Guarant'd Analysis	8.00	7.00	......	......	3.00	4.50	Southern Fertilizer Co., Orlando, Fla.
		Official Analysis...	10.25	7.35	0.70	8.05	2.83	4.65	
Hillman's Special for Vegetables	1572	Guarant'd Analysis	8.00	......	......	8.00	5.00	6.00	Southern Fertilizer Co., Orlando, Fla.
		Official Analysis...	6.93	6.07	3.07	9.14	5.25	6.51	
Carry's Special for Fruit	1573	Guarant'd Analysis	8.00	6.00	1.00	......	4.00	12.00	Southern Fertilizer Co., Orlando, Fla.
		Official Analysis...	7.07	6.80	0.48	7.28	3.72	11.09	
Kainit	1574	Guarant'd Analysis	......	......	......	......	......	12.00	E. O. Painter Fertz. Co., Jacksonville, Fla.
		Official Analysis...	......	......	......	......	......	13.51	
Gem Vegetable	1575	Guarant'd Analysis	5.00	5.00	3.00	......	4.00	6.00	E. O. Painter Fertz. Co., Jacksonville, Fla.
		Official Analysis...	8.35	9.49	0.10	9.59	4.57	7.62	

OFFICIAL FERTILIZER ANALYSES, 1910.—Continued.

NAME, OR BRAND.	Laboratory Number.		Moisture.	Phosphoric Acid.			Ammonia.	Potash (K_2O).	BY WHOM AND WHERE MANUFACTURED.
				Available.	Insoluble.	Total.			
H. G. Dried Blood	1576	Guarant'd Analysis	......	......	......	......	17.00	......	E. O. Painter Fertz. Co., Jacksonville, Fla.
		Official Analysis	......	......	......	......	15.89	......	
Simon Pure No. 2	1577	Guarant'd Analysis	8.00	6.00	2.00	......	4.00	6.00	E. O. Painter Fertz. Co., Jacksonville, Fla.
		Official Analysis	8.52	7.15	0.82	7.97	4.82	6.98	
H. G. Sulfate of Potash	1578	Guarant'd Analysis	8.00	......	......	......	......	49.00	E. O. Painter Fertz. Co., Jacksonville, Fla.
		Official Analysis	......	......	......	......	......	52.72	
Medium Grade Cotton Seed Meal	1579	Guarant'd Analysis	......	......	......	2.00	7.50	1.00	Planters' Oil Co., Albany, Ga.
		Official Analysis	......	......	......	......	7.52	......	
Ideal Fruit & Vine Manure	1580	Guarant'd Analysis	10.00	6.00	......	......	3.00	10.00	Wilson & Toomer Fertz. Co., Jacksonville, Fla.
		Official Analysis	14.66	6.20	0.45	6.65	3.10	9.34	
Peruvian Guano Tree Grower	1581	Guarant'd Analysis	8.00	6.00	2.00	......	5.00	8.00	Wilson & Toomer Fertz. Co., Jacksonville, Fla.
		Official Analysis	9.83	6.44	3.31	9.75	4.88	8.28	
Ideal Vegetable Manure	1582	Guarant'd Analysis	8.00	6.00	1.00	......	4.00	8.00	Wilson & Toomer Fertz. Co., Jacksonville, Fla.
		Official Analysis	11.81	5.55	1.72	7.27	3.75	9.19	

W. & T.'s Special Mixture No. 1	1583	Guarant'd Analysis	8.00	6.00	1.00	......	5.00	5.00	Wilson & Toomer Fertz. Co., Jacksonville, Fla.
		Official Analysis...	13.30	6.14	0.61	6.75	5.25	5.25	
L. G. Sulfate of Potash....	1584	Guarant'd Analysis	......	......	......	......	......	26.00	Wilson & Toomer Fertz. Co., Jacksonville, Fla.
		Official Analysis...	......	......	......	......	......	27.24	
Original Ideal Fertilizer...	1585	Guarant'd Analysis	8.00	5.00	1.00	......	4.00	6.00	Wilson & Toomer Fertz. Co., Jacksonville, Fla.
		Official Analysis...	7.98	3.38	0.00	3.38	5.30	6.44	
H. G. V. C. Tip Top Tomato Trucker	1586	Guarant'd Analysis	8.00	7.00	1.00	......	4.00	5.00	Va-Car. Chemical Co., Savannah, Ga.
		Official Analysis...	3.20	7.11	2.47	9.58	4.77	6.22	
H. G. V. C. Old Dominion Potato Manure	1587	Guarant'd Analysis	8.00	7.00	1.00	......	5.00	8.00	Va.-Car. Chemical Co., Savannah, Ga.
		Official Analysis...	8.23	8.21	0.46	8.67	4.96	6.11	
H. G. V. C. Fruit and Vine.	1588	Guarant'd Analysis	8.00	6.00	1.00	......	2.50	10.00	Va.-Car. Chemical Co., Savannah, Ga.
		Official Analysis...	8.34	8.99	0.21	9.20	1.84	9.15	
H. G. V. C. Champion Citrus Compound	1589	Guarant'd Analysis	10.00	6.00	1.00	......	3.00	14.00	Va.-Car. Chemical Co., Savannah, Ga.
		Official Analysis...	2.82	7.31	0.54	7.85	3.43	13.88	
Orange Fruiter	1590	Guarant'd Analysis	10.00	8.00	1.00	......	4.00	12.00	The Armour Fertz. Wks., Jacksonville, Fla.
		Official Analysis...	4.82	8.58	0.18	8.76	4.15	11.71	
Armour's Practical Trucker	1591	Guarant'd Analysis	10.00	6.00	2.00	......	3.00	10.00	The Armour Fertz. Wks., Jacksonville, Fla.
		Official Analysis...	9.49	7.28	0.95	8.23	2.69	8.24	
Armour's Original Mixture No. 1	1592	Guarant'd Analysis	10.00	5.00	1.00	......	5.00	5.00	The Armour Fertz. Wks., Jacksonville, Fla.
		Official Analysis...	6.95	5.97	0.98	6.95	4.94	5.64	
Williams & Clark Orange Tree	1593	Guarant'd Analysis	10.00	6.00	1.00	......	3.50	5.00	Am. Agr. Chemical Co., Jacksonville, Fla.
		Official Analysis...	6.60	6.81	1.19	8.00	4.04	5.80	

OFFICIAL FERTILIZER ANALYSES, 1910.—Continued.

NAME, OR BRAND.	Laboratory Number.		Moisture.	Phosphoric Acid. Available.	Phosphoric Acid. Insoluble.	Phosphoric Acid. Total.	Ammonia.	Potash (K_2O).	BY WHOM AND WHERE MANUFACTURED.
Cotton Seed Meal........	1594	Guarant'd Analysis	6.50	......	......	2.00	7.50	1.00	A. A. Smith, Atlanta, Ga.
		Official Analysis...	......	......	......	......	7.84	......	
Kainit	1595	Guarant'd Analysis	......	......	......	......	......	12.00	Wilson & Toomer Fertz. Co., Jacksonville, Fla.
		Official Analysis...	......	......	......	......	......	13.17	
The Ideal Fertilizer.......	1596	Guarant'd Analysis	8.00	5.00	1.00	......	4.00	6.00	Wilson & Toomer Fertz. Co., Jacksonville, Fla.
		Official Analysis...	7.04	5.56	0.90	6.46	4.16	5.48	
W. & T.'s Special Mixture No. 1	1597	Guarant'd Analysis	8.00	6.00	1.00	......	5.00	5.00	Wilson & Toomer Fertz. Co., Jacksonville, Fla.
		Official Analysis...	7.72	6.21	1.05	7.26	5.59	5.99	
Canada Unleached Hard Wood Ashes	1598	Guaran'td Analysis	12.00	......	......	1.00	......	4.00	Wilson & Toomer Fertz. Co., Jacksonville, Fla.
		Official Analysis...	......	......	......	......	......	2.94	
Nitrate of Soda...........	1599	Guarant'd Analysis	3.00	......	......	......	17.00	......	Wilson & Toomer Fertz. Co., Jacksonville, Fla.
		Official Analysis...	......	......	......	......	18.17	......	
Ideal Fruit & Vine Manure	1600	Guarant'd Analysis	10.00	6.00	......	......	3.00	10.00	Wilson & Toomer Fertz. Co., Jacksonville, Fla.
		Official Analysis...	6.23	6.73	0.14	6.87	3.62	10.20	

Ideal Vegetable Manure...	1601	Guarant'd Analysis	8.00	6.00	1.00	......	4.00	8.00	Wilson & Toomer Fertz. Co., Jacksonville, Fla.
		Official Analysis...	10.94	6.51	0.91	7.42	3.98	9.00	
Complete Sweet Potato Fertilizer	1602	Guarant'd Analysis	10.00	8.00	1.00	......	2.50	3.50	Wilson & Toomer Fertz. Co., Jacksonville, Fla.
		Official Analysis...	12.28	9.43	1.24	10.67	2.64	4.30	
Mapes Fruit & Vine Manure	1603	Guarant'd Analysis	10.00	5.00	2.00	......	2.00	10.00	The Mapes Formula & Peruvian Guano Co., New York, N. Y.
		Official Analysis...	11.80	5.63	2.12	7.75	2.60	11.24	
Mapes Vegetable Manure..	1604	Guarant'd Analysis	12.00	6.00	2.00	......	5.00	4.00	The Mapes Formula & Peruvian Guano Co., New York, N. Y.
		Official Analysis...	11.71	6.29	2.69	8.98	4.97	6.01	
Mapes Orange Tree Manure	1605	Guarant'd Analysis	12.00	6.00	2.00	......	4.00	3.00	The Mapes Formula & Peruvian Guano Co., New York, N. Y.
		Official Analysis...	11.89	7.43	2.72	10.15	4.14	4.27	
Orange Tree Grower......	1606	Guarant'd Analysis	8.00	6.00	2.00	......	4.00	5.00	Tampa Fertilizer Co., Tampa, Fla.
		Official Analysis...	3.78	7.04	5.38	12.42	4.34	6.50	
Vegetable Special	1607	Guarant'd Analysis	10.00	6.00	1.00	7.00	5.00	5.00	The Gulf Fertilizer Co., Tampa, Fla.
		Official Analysis...	11.19	7.26	0.99	8.25	4.55	5.97	
Cuke Special	1608	Guarant'd Analysis	8.00	5.00	1.00	......	5.00	8.00	The Gulf Fertilizer Co., Tampa, Fla.
		Official Analysis...	9.58	6.18	0.52	6.70	4.90	9.11	
Celery Special	1609	Guarant'd Analysis	10.00	5.00	1.00	6.00	6.00	7.00	The Gulf Fertilizer Co., Tampa, Fla.
		Official Analysis...	7.43	5.63	0.72	6.35	6.26	8.16	
Orange Producer	1610	Guarant'd Analysis	8.00	7.00	1.00	......	4.50	15.00	The Gulf Fertilizer Co., Tampa, Fla.
		Official Analysis...	6.58	6.63	0.48	7.11	4.49	14.54	

OFFICIAL FERTILIZER ANALYSES, 1910.—Continued.

NAME, OR BRAND.	Laboratory Number.		Moisture.	Phosphoric Acid.			Ammonia.	Potash (K_2O).	BY WHOM AND WHERE MANUFACTURED.
				Available.	Insoluble.	Total.			
Fruit and Vine...........	1611	Guarant'd Analysis	10.00	6.00	1.00	7.00	3.00	10.00	The Gulf Fertilizer Co.,
		Official Analysis...	4.29	3.07	3.31	6.88	3.28	9.83	Tampa, Fla.

DEPARTMENT OF AGRICULTURE—DIVISION OF CHEMISTRY.

FEEDING STUFF SECTION.

R. E. Rose, State Chemist. SPECIAL FEEDING STUFF ANALYSES, 1910. E. Peck Greene, Asst. Chemist.

Samples Taken by Purchaser Under Section 9, Act Approved May 24, 1905.

NAME, OR BRAND.	Laboratory Number.	Fibre.	Protein.	Starch and Sugar.	Fat.	Ash.	BY WHOM SENT.
Barley Mixed Oats..................	120	9.45	11.23	63.13	3.05	2.97	Ganahl & Saussy, Jacksonville, Fla.
Barley Mixed Oats..................	121	9.34	11.45	63.14	3.01	3.34	Bonacker Bros., Pensacola, Fla.
Rice Bran	122	13.82	12.15	42.64	11.82	9.50	E. Barksdale, Tampa, Fla.
Kornfalfa Feed	123	12.13	11.76	56.92	2.85	3.37	Peninsular Naval Stores Co., Tampa, Fla.
Mixed Grain (Oats), No. 6783........	124	8.52	11.30	57.78	3.50	3.25	Lewis Bear Co., Pensacola, Fla.
Mixed Grain (Oats), No. 13670.......	125	7.87	11.50	60.46	3.57	3.30	Lewis Bear Co., Pensacola, Fla.
Ground Corn Ear....................	126	11.38	7.72	65.95	2.77	1.50	R. F. Howard, Tallahassee, Fla.
Feed No. 1.........................	127	11.55	10.84	62.42	3.62	1.85	R. F. Howard, Tallahassee, Fla.
Feed No. 2.........................	128	11.10	12.37	59.84	4.80	2.22	R. F. Howard, Tallahassee, Fla.
Corn Shucks	129	32.60	2.28	52.61	0.57	1.67	R. F. Howard, Tallahassee, Fla.
Mixed Oats	130	9.77	12.32	58.72	4.37	3.15	Lewis Bear Co., Pensacola, Fla.
Bran	131	9.70	15.80	54.61	3.45	6.67	I. Wolff, Pensacola, Fla.
Velvet Beans	132	7.38	19.04	55.07	5.23	3.39	C. A. Williams, Alachua, Fla.
Perfection Feed	133	10.05	12.64	61.58	3.64	2.37	R. F. Howard, Tallahassee, Fla.
Corn "3-D." Grains	134	10.95	31.59	39.14	8.68	1.85	John C. Evans, Gainesville, Fla.
Schumacher Special Horse Feed......	135	8.60	9.65	64.70	3.27	2.75	William F. Jack, Tampa, Fla.
Economy Feed	136	10.83	10.31	62.24	3.29	1.97	R. F. Howard, Tallahassee, Fla.
Wheat Middlings	137	7.14	18.21	51.00	5.95	5.30	C. E. Pleas, Chipley, Fla.

SPECIAL FEEDING STUFF ANALYSES, 1910—Continued.

NAME OR BRAND.	Laboratory Number.	Fibre.	Protein.	Starch and Sugar.	Fat.	Ash.	BY WHOM SENT.
Oats	138	11.78	10.71	57.16	3.57	3.03	A. S. Carr, Wilma, Fla.
Beggarweed Hay	139	24.07	21.63	35.08	4.04	3.94	P. H. Fellows, DeFuniak Springs, Fla.
Giant Millet	140	2.28	11.55	67.59	5.15	1.32	W. E. Jaques, Jacksonville, Fla.
Pure Wheat Bran	141	9.76	14.48	53.56	3.53	6.84	N. C. Bryan, Kissimmee, Fla.
Corn and Oat Feed	142	7.22	9.76	64.30	5.55	2.65	The Lewis Bear Co., Pensacola, Fla.
Wheat Bran	143	10.37	13.38	57.28	2.31	6.58	W. I. Vason, Tallahassee, Fla.
Feed No. 1	144	6.28	12.11	64.86	3.47	3.78	Walton Land and Timber Co., DeFuniak Springs, Fla.
Feed No. 2	145	6.13	9.74	67.60	3.34	3.99	Walton Land and Timber Co., DeFuniak Springs, Fla.
Feed No. 1	146	24.20	11.35	41.72	2.07	5.48	R. F. Howard, Tallahassee, Fla.
Feed No. 2	147	27.07	6.10	50.05	2.07	4.26	R. F. Howard, Tallahassee, Fla.
Maiden Cane Hay	148	32.66	8.49	43.15	1.25	5.18	G. C. Allen, Beachtown, Ga.
Kudzu Hay	149	37.81	19.82	27.21	1.36	3.85	C. E. Please, Chipley, Fla.

DEPARTMENT OF AGRICULTURE—DIVISION OF CHEMISTRY.

FEEDING STUFF SECTION.

R. E. Rose, State Chemist. OFFICIAL FEEDIING STUFF ANALYSES, 1910. E. Peck Greene, Asst. Chemist.

Samples Taken by State Chemist and State Inspector Under Sections 1, 2 and 13, Act Approved May 24, 1905.

NAME, OR BRAND.	Laboratory Number.		Fibre.	Protein.	Starch and Sugar.	Fat.	Ash.	NAME AND ADDRESS OF MANUFACTURER.
Fancy Shorts	901	Guarant'd Analysis	7.35	16.03	59.52	4.32	......	Phoenix Flour Mill, Evansville, Ind.
		Official Analysis...	7.48	17.59	56.46	4.24	4.21	
Pine Leaf Middlings......	902	Guarant'd Analysis	6.10	15.75	57.95	4.20	4.10	Cairo Milling Co., Cairo, Ill.
		Official Analysis...	6.03	17.85	57.99	4.46	3.53	
Middlings	903	Guarant'd Analysis	5.00	16.00	57.00	4.50	......	H. C. Cole Milling Co., Chester, Ill.
		Official Analysis...	5.18	17.81	58.90	4.21	3.66	
Pure Wheat Middlings....	904	Guarant'd Analysis	4.58	16.04	62.48	4.17	......	The Dunlop Milling Co., Clarksville, Tenn.
		Official Analysis...	5.02	17.90	56.65	5.16	4.31	
Heavy Draught Feed......	905	Guarant'd Analysis	......	10.35	64.43	3.42	......	United Grocery Co., Jacksonville, Fla.
		Official Analysis...	5.57	10.71	66.64	2.68	2.19	
"Purity" Bran	906	Guarant'd Analysis	......	14.00	54.00	3.50	......	Cairo Milling Co., Cairo, Ill.
		Official Analysis...	7.81	13.00	57.07	3.78	6.26	

OFFICIAL FEEDING STUFF ANALYSES, 1910—Continued.

NAME, OR BRAND.	Laboratory Number.		Fibre.	Protein.	Starch and Sugar.	Fat.	Ash.	NAME AND ADDRESS OF MANUFACTURER.
Victor Feed	907	Guarant'd Analysis	12.00	7.50	62.00	3.00	......	The Quaker Oats, Co., Chicago,
		Official Analysis...	10.13	10.00	63.42	3.27	3.50	Ill.
Purina Feed	908	Guarant'd Analysis	8.90	12.50	58.00	4.00	......	Ralston Purina Co., St. Louis,
		Official Analysis...	11.19	12.02	57.53	4.75	3.79	Mo.
Pure Wheat Shorts	909	Guarant'd Analysis	6.00	16.00	48.00	4.00	......	Liberty Mills, Nashville, Tenn.
		Official Analysis...	5.88	15.55	58.42	3.64	3.68	
Star Middlings	910	Guarant'd Analysis	8.00	15.00	54.00	4.00	......	Star & Crescent Milling Co.,
		Official Analysis...	8.61	16.32	55.10	4.53	4.80	Chicago, Ill.
Barley Mixed Oats	911	Guarant'd Analysis	......	......	......	......	......	Atlantic & Gulf Grocery Co.,
		Official Analysis...	9.35	11.27	62.86	2.99	2.86	Jacksonville, Fla.
Protena Feed	912	Guarant'd Analysis	9.70	12.00	57.00	3.80	......	Ralston Purina Co., St. Louis,
		Official Analysis...	12.91	11.27	59.91	3.60	3.17	Mo.
Lillie Bran	913	Guarant'd Analysis	8.50	15.00	56.50	4.00	......	Lillie Mill Co., Franklin, Tenn.
		Official Analysis...	8.84	15.01	57.12	3.11	5.77	
Schumacher Scratching Grains	914	Guarant'd Analysis	4.50	10.50	64.00	3.00	......	The Quaker Oats Co., Chicago,
		Official Analysis...	2.84	9.75	70.98	2.19	2.00	Ill.

Stafolife Feed	915	Guarant'd Analysis	12.75	11.00	53.00	6.00	......	Lawrence & Hamilton Feed Co., New Orleans, La.
		Official Analysis...	12.99	10.66	55.45	4.72	5.60	
Nutriline	916	Guarant'd Analysis	10.00	12.00	58.00	3.50	......	Nutriline Milling Co., Crowley, La.
		Official Analysis...	8.44	13.51	56.08	4.00	7.22	
Vim Horse Feed..........	917	Guarant'd Analysis	10.50	10.00	60.00	3.75	......	The Quaker Oats Co., Chicago, Ill.
		Official Analysis...	10.10	10.71	61.75	1.54	4.09	
Cotton Seed Meal.........	918	Guarant'd Analysis	......	38.62	......	......	......	Georgia Cotton Oil Co., Macon, Ga.
		Official Analysis...	10.98	32.80	35.14	6.49	5.51	
Cotton Seed Meal........	919	Guarant'd Analysis	......	38.62	......	......	......	Grovania Fertilizer & Oil Co., Grovania, Ga.
		Official Analysis...	6.75	39.26	31.35	8.75	6.04	
Cotton Seed Meal.........	920	Guarant'd Analysis	......	38.62	......	......	......	Vienna Cotton Oil Co., Vienna, Ga.
		Official Analysis...	8.16	37.29	33.41	6.98	5.94	
Globe Gluten Feed........	921	Guarant'd Analysis	......	24.00	51.00	2.50	......	Corn Products Refining Co., New York, N. Y.
		Official Analysis...	8.23	26.32	51.48	2.15	3.12	
Stafolife Feed	922	Guarant'd Analysis	12.75	11.00	53.00	6.00	......	Lawrence & Hamilton Feed Co., New Orleans, La.
		Official Analysis...	14.05	11.97	52.36	3.98	8.42	
Protena	923	Guarant'd Analysis	9.70	12.00	57.00	3.80	......	Ralston Purina Co., St. Louis, Mo.
		Official Analysis...	10.70	11.58	59.10	4.30	3.72	
Pure Wheat Middlings....	924	Guarant'd Analysis	6.12	15.00	56.00	6.40	......	Maney Milling Co., Omaha, Neb.
		Official Analysis...	4.65	17.55	57.33	4.64	4.45	
Sugaration Stock Feed....	925	Guarant'd Analysis	11.00	11.65	64.40	4.00	......	Inter-State Milling Co., Memphis, Tenn.
		Official Analysis...	8.06	10.44	66.85	3.05	4.01	

OFFICIAL FEEDING STUFF ANALYSES, 1910—Continued.

NAME, OR BRAND.	Laboratory Number.		Fiber.	Protein.	Starch and Sugar.	Fat.	Ash.	NAME AND ADDRESS OF MANUFACTURER.
Sucrene Dairy Feed......	926	Guarant'd Analysis	12.00	16.50	46.00	3.50	......	American Milling Co., Owensboro, Ky.
		Official Analysis...	10.81	17.29	49.83	2.81	9.76	
Barley Mixed Oats........	927	Guarant'd Analysis	11.00	10.00	40.00	3.00	......	R. R. Detre, Philadelphia, Pa.
		Official Analysis...	13.32	10.53	58.61	3.51	3.42	
Forest City Feed Meal....	928	Guarant'd Analysis	......	23.00	30.00	4.00	......	The Southern Cotton Oil Co., Savannah, Ga.
		Official Analysis...	18.73	23.85	38.38	6.25	4.69	
Sugaration Stock Feed....	929	Guarant'd Analysis	11.00	11.65	64.40	4.00	......	Inter-State Milling Co., Memphis, Tenn.
		Official Analysis...	10.58	17.29	51.68	3.50	5.12	
Pure Wheat Middlings....	930	Guarant'd Analysis	8.00	16.00	40.00	5.00	......	Taylor-Greer Grain Co., Memphis, Tenn.
		Official Analysis...	7.73	17.06	54.74	4.60	4.42	
Star Middlings	931	Guarant'd Analysis	8.00	15.00	54.00	4.00	......	Star & Crescent Milling Co., Chicago, Ill.
		Official Analysis...	6.85	16.27	56.12	4.62	4.27	
Bran and Shorts	932	Guarant'd Analysis	8.00	14.50	58.62	4.00	......	Atlanta Milling Co., Atlanta, Ga.
		Official Analysis...	5.79	15.00	58.95	4.17	4.62	
Alfalfa Meal	933	Guarant'd Analysis	......	......	......	......	......	Kornfalfa Feed Milling Co., Kansas City, Mo.
		Official Analysis...	31.10	10.48	37.38	1.10	6.77	

Cotton Seed Meal	934	Guarant'd Analysis	......	38.52	......	......	......	Florida Cotton Oil Co., Jacksonville, Fla.
		Official Analysis...	10.40	33.87	33.31	8.55	5.22	
Mill Feed Compound......	935	Guarant'd Analysis	9.50	13.00	58.62	4.00	......	Atlanta Milling Co., Atlanta, Ga.
		Official Analysis...	4.77	13.43	63.79	3.15	3.96	
Cotton Seed Meal.........	936	Guarant'd Analysis	......	38.52	......	......	......	Florida Cotton Oil Co., Tallahassee, Fla.
		Official Analysis...	8.65	37.21	31.47	8.20	5.87	
Ceralfa Stock Feed.........	937	Guarant'd Analysis	11.50	13.00	55.00	4.00	......	J. B. Edgar Grain Co., Memphis, Tenn.
		Official Analysis...	11.60	13.12	53.30	2.98	4.04	
Sucrene Horse & Mule Feed	938	Guarant'd Analysis	12.00	10.00	50.00	3.50	......	American Milling Co., Chicago, Ill.
		Official Analysis...	10.45	8.00	63.41	2.14	5.45	
Cremo Brand, Second Class Cotton Seed Meal.......	939	Guarant'd Analysis	......	20.00	30.00	5.00	......	Tennessee Fiber Co., Memphis, Tenn.
		Official Analysis...	22.15	20.84	38.85	4.50	3.75	
Cotton Seed Meal..........	940	Guarant'd Analysis	......	25.00	......	......	......	Florida Cotton Oil Co., Tallahassee, Fla.
		Official Analysis...	19.72	21.41	38.23	6.10	4.67	
Prime Cotton Seed Meal..	941	Guarant'd Analysis	......	38.62	......	......	......	Alabama Cotton Oil Co., Montgomery, Ala.
		Official Analysis...	11.75	34.40	32.44	6.70	5.75	
Cotton Seed Meal	942	Guarant'd Analysis	......	38.62	......	......	......	The Southern Cotton Oil Co., Pensacola, Fla.
		Official Analysis...	8.20	37.60	30.34	8.27	5.82	
Pure Wheat Shipstuff.....	943	Guarant'd Analysis	6.05	18.13	56.22	5.92	......	Home Mill & Grain Co., Mount Vernon, Ind.
		Official Analysis...	3.30	17.11	57.37	4.67	7.02	
Cotton Seed Feed Meal....	944	Guarant'd Analysis	28.00	25.00	53.00	5.00	......	J. Lindsay Wells Co., Memphis, Tenn.
		Official Analysis...	19.05	22.09	39.38	5.49	4.07	

OFFICIAL FEEDING STUFF ANALYSES, 1910—Continued.

NAME, OR BRAND.	Laboratory Number.		Fiber.	Protein.	Starch and Sugar.	Fat.	Ash.	NAME AND ADDRESS OF MANUFACTURERS.
Standard Middlings	945	Guarant'd Analysis	......	14.50	50.00	4.00	......	Washburn-Crosby Co., Minneapolis, Minn.
		Official Analysis...	7.03	15.03	57.09	5.28	4.50	
Pure Wheat Middlings....	946	Guarant'd Analysis	5.18	17.11	58.18	4.41	......	Geo. P. Plant Milling Co., St. Louis, Mo.
		Official Analysis...	4.95	16.98	57.68	5.00	3.72	
Alfalfa Meal	947	Guarant'd Analysis	35.00	8.00	32.00	......	......	Kornfalfa Feed Milling Co., Kansas City, Mo.
		Official Analysis...	33.07	10.14	38.07	1.82	5.05	
Boss Chop Feed	948	Guarant'd Analysis	11.00	8.50	60.00	3.50	......	The Great Western Cereal Co., Chicago, Ill.
		Official Analysis...	8.15	8.78	64.75	4.65	3.53	
Corno Horse and Mule Feed	949	Guarant'd Analysis	12.00	10.00	58.50	3.50	......	The Corno Mills Co. St. Louis, Mo.
		Official Analysis...	12.50	10.09	56.84	3.77	3.85	
Pure Wheat Bran	950	Guarant'd Analysis	10.00	14.00	53.50	4.25	......	Nelson Grain Co., Kansas City, Mo.
		Official Analysis...	7.79	16.06	50.65	4.03	6.47	
Barley Mixed Oats	951	Guarant'd Analysis	11.00	9.00	40.00	3.00	......	L. F. Miller & Sons, Philadelphia, Pa.
		Official Analysis...	9.70	8.78	61.47	3.60	4.30	
Boss Chop Feed	952	Guarant'd Analysis	11.00	8.50	60.00	3.50	......	The Great Western Cereal Co., Chicago, Ill.
		Official Analysis...	13.22	8.56	60.82	4.00	3.72	

Blood Meal	953	Guarant'd Analysis	1.50	80.00	......	......	......	The Armour Fertilizer Works, Jacksonville, Fla.
		Official Analysis...	2.60	83.20	1.70	......	2.87	
"Purity" Bran	954	Guarant'd Analysis	......	13.40	54.00	4.00	......	Cairo Milling Co., Cairo, Ill.
		Official Analysis...	7.63	15.94	54.29	4.75	5.82	
Poultry Feed	955	Guarant'd Analysis	4.00	11.00	65.00	3.60	......	Ralston Purina Co., St. Louis, Mo.
		Official Analysis...	4.49	11.19	66.29	3.95	1.84	
Cotton Seed Meal	956	Guarant'd Analysis	......	38.62	......	......	......	Georgia Cotton Oil Co., Macon Ga.
		Official Analysis...	10.76	37.82	30.00	7.97	5.80	
Corno Horse and Mule Feed	957	Guarant'd Analysis	12.00	10.00	58.50	3.50	......	The Corno Mills Co., St. Louis, Mo.
		Official Analysis...	12.08	10.57	57.36	4.30	4.04	
Choice Bran	958	Guarant'd Analysis	9.50	14.95	53.29	5.35	......	Hecker-Jones-Jewell Milling Co., New York, N. Y.
		Official Analysis...	9.43	15.93	52.43	4.58	5.85	
Pure Wheat Bran and Shorts	959	Guarant'd Analysis	7.65	14.75	54.50	4.50	4.75	Barrett, Denton & Lynn Co., Dalton, Ga.
		Official Analysis...	7.76	14.47	52.34	4.47	5.49	
Corno Ox Feed	960	Guarant'd Analysis	14.00	10.00	58.00	3.50	......	The Corno Mills Co., St. Louis, Mo.
		Official Analysis...	16.47	8.78	56.54	3.55	3.88	
Pure Wheat Bran	961	Guarant'd Analysis	9.50	14.50	50.00	4.00	......	Alabama Corn Mills Co., Mobile, Ala.
		Official Analysis...	9.16	15.40	52.65	4.64	6.20	
Sea Island Cotton Seed Meal	962	Guarant'd Analysis	......	24.20	......	......	......	Sea Island Cotton Oil Co., Charleston, S. C.
		Official Analysis...	18.65	22.29	40.79	4.55	4.62	
Cotton Seed Meal	963	Guarant'd Analysis	......	38.60	......	......	......	The Southern Cotton Oil Co., Savannah, Ga.
		Official Analysis...	10.95	38.26	27.41	9.64	5.60	

OFFICIAL FEEDING STUFF ANALYSES, 1910—Continued.

NAME, OR BRAND.	Laboratory Number.		Fiber.	Protein.	Starch and Sugar.	Fat.	Ash.	NAME AND ADDRESS OF MANUFACTURER.
Choice Bran	964	Guarant'd Analysis	9.50	14.95	53.25	5.35	......	Hecker-Jones-Jewell Milling Co., New York, N. Y.
		Official Analysis...	8.69	15.71	53.87	4.01	5.98	
Wheat Shorts	965	Guarant'd Analysis	7.50	13.75	62.00	4.35	......	Dahnke-Walker Milling Co., Union City, Tenn.
		Official Analysis...	5.07	14.53	61.02	4.81	3.35	
H. Middlings	966	Guarant'd Analysis	8.05	17.38	52.92	6.05	......	Hecker-Jones-Jewell Milling Co., New York, N. Y.
		Official Analysis...	8.82	18.04	51.59	5.82	5.02	
Hammond Dairy Feed	967	Guarant'd Analysis	11.00	17.00	50.00	3.00	......	Western Grain Products Co., Hammond, Ind.
		Official Analysis...	12.13	17.37	48.12	4.50	6.34	
Mill Feed	968	Guarant'd Analysis	4.43	12.38	65.39	4.32	......	Riverside Milling and Power Co., Cartersville, Ga.
		Official Analysis...	8.50	12.90	59.08	3.45	5.00	
Boss Chop Feed	969	Guarant'd Analysis	11.00	8.00	60.00	3.50	......	The Great Western Cereal Co., Chicago, Ill.
		Official Analysis...	10.00	8.21	64.04	4.56	3.77	
Ballard's Shipstuff	970	Guarant'd Analysis	5.83	17.37	46.58	4.41	......	Ballard & Ballard Co., Louisville, Ky.
		Official Analysis...	5.05	16.23	59.63	3.70	4.10	
Dried Molasses Beet Pulp..	971	Guarant'd Analysis	20.00	8.00	60.00	0.50	......	The Larrowe Milling Co., Detroit, Mich.
		Official Analysis...	19.87	9.07	58.68	0.30	2.69	

Pure Wheat Middlings	972	Guarant'd Analysis	6.00	16.04	62.48	4.17	......	The Dunlop Milling Co., Clarksville, Tenn.
		Official Analysis...	5.58	16.09	63.98	4.30	4.15	
Choice Bran	973	Guarant'd Analysis	9.50	14.95	53.25	5.35	......	Hecker-Jones-Jewell Milling Co., New York, N. Y.
		Official Analysis...	10.32	16.56	50.52	4.74	5.89	
Excelsior Chop Feed	974	Guarant'd Analysis	11.00	8.00	60.00	3.50	......	The Great Western Cereal Co., Chicago, Ill.
		Official Analysis...	10.72	8.12	60.93	3.00	3.10	
Thoroughbred Feed	975	Guarant'd Analysis	6.56	15.05	59.98	3.34	......	Lexington Roller Mills Co., Lexington, Ky.
		Official Analysis...	6.13	16.54	57.73	3.30	5.45	
Durham Brand Cotton Seed Meal	976	Guarant'd Analysis	......	25.75	......	......	......	Florida Cotton Oil Co., Jacksonville, Fla.
		Official Analysis...	17.56	25.71	36.85	5.51	4.55	
Purina Feed	977	Guarant'd Analysis	8.90	12.50	58.00	4.00	......	Ralston Purina Co., St. Louis, Mo.
		Official Analysis...	9.75	11.41	58.88	4.12	3.30	
Bran and Shorts	978	Guarant'd Analysis	8.00	14.50	58.62	4.00	......	Atlanta Milling Co., Atlanta, Ga.
		Official Analysis...	6.13	16.72	57.58	4.12	4.80	
Pure Winter Wheat Middlings	979	Guarant'd Analysis	4.20	16.00	56.00	4.20	......	Edwardsville Milling Co., Edwardsville, Ill.
		Official Analysis...	5.05	16.67	58.47	4.82	4.09	
Daisy Dairy Feed	980	Guarant'd Analysis	12.00	15.00	50.00	3.00	......	The Great Western Cereal Co., Chicago, Ill.
		Official Analysis...	12.80	15.57	49.62	2.55	6.92	
Middlings	981	Guarant'd Analysis	3.85	16.12	57.38	6.05	......	Charleston Milling Co., Charleston, Mo.
		Official Analysis...	4.90	16.67	59.27	4.05	4.01	
Pure Wheat Shorts	982	Guarant'd Analysis	6.42	16.00	48.00	4.00	......	Alabama Corn Mills Co., Mobile, Ala.
		Official Analysis...	4.46	19.92	55.98	3.57	3.88	

OFFICIAL FEEDING STUFF ANALYSES, 1910—Continued.

NAME, OR BRAND.	Laboratory Number.		Fiber.	Protein.	Starch and Sugar.	Fat.	Ash.	NAME AND ADDRESS OF MANUFACTURERS.
Wheat Middlings	983	Guarant'd Analysis	2.65	15.27	64.18	3.38	......	Cairo Milling Co., Cairo, Ill.
		Official Analysis...	1.65	14.92	68.25	2.25	2.12	
Pure Wheat Bran	984	Guarant'd Analysis	11.04	14.97	52.03	3.50	6.72	Millstadt Milling Co., Millstadt, Ill.
		Official Analysis...	11.08	14.92	53.10	3.24	6.96	
Globe Gluten Feed	985	Guarant'd Analysis	......	24.00	51.00	2.50	......	Corn Products Refining Co., New York.
		Official Analysis...	8.71	25.52	52.23	2.41	1.99	
Protena Dairy Feed	986	Guarant'd Analysis	16.00	20.00	48.00	3.50	......	Ralston Purina Co., St. Louis, Mo.
		Official Analysis...	16.15	19.04	45.11	4.63	5.32	
Wheat Bran	987	Guarant'd Analysis	8.45	14.50	54.16	3.75	......	Texas Star Flour Mills, Galveston, Texas.
		Official Analysis...	7.93	17.11	54.47	3.35	6.20	
Dark Cotton Seed Meal...	988	Guarant'd Analysis	......	23.17	......	......	......	The Southern Cotton Oil Co., Charleston, S. C.
		Official Analysis...	16.98	23.34	38.08	6.52	5.56	
Cotton Seed Meal	989	Guarant'd Analysis	7.00	38.62	24.00	9.00	......	J. Lindsay Wells Co., Memphis, Tenn.
		Official Analysis...	10.44	39.09	28.73	8.89	4.89	
Cracker Mule Feed.......	990	Guarant'd Analysis	12.00	10.00	58.00	3.50	......	The Quaker Oats Co., Chicago, Ill.
		Official Analysis...	12.60	11.32	58.98	2.00	3.62	

Wheat Middlings	991	Guarant'd Analysis	8.00	17.00	50.00	5.00	......	W. A. Coombs Milling Co., Cold Water, Mich.
		Official Analysis...	10.52	16.85	49.05	4.98	5.00	
Choice Bran	992	Guarant'd Analysis	9.50	14.95	53.25	5.35	......	Hecker-Jones-Jewell Milling Co., New York.
		Official Analysis...	11.27	14.48	51.90	4.50	6.22	
Pine Leaf Middlings......	993	Guarant'd Analysis	6.10	15.75	57.95	4.20	4.10	Cairo Miling Co., Cairo, Ill.
		Official Analysis...	6.03	17.25	55.56	4.45	5.14	
Pure Wheat Bran	994	Guarant'd Analysis	9.50	14.50	50.00	4.00	......	Liberty Mills, Nashville, Tenn.
		Official Analysis...	10.60	14.92	51.66	3.77	6.82	
Wheat Middlings	995	Guarant'd Analysis	8.00	17.00	50.00	5.00	......	W. A. Coombs Milling Co., Cold Water, Mich.
		Official Analysis...	10.86	17.20	48.04	5.21	5.42	
Sucrene Dairy Feed......	996	Guarant'd Analysis	12.00	16.50	46.00	3.50	......	American Milling Co., Chicago, Ill.
		Official Analysis...	8.60	17.81	49.89	3.60	9.11	
Pure Wheat Middlings....	997	Guarant'd Analysis	7.00	16.00	56.00	4.00	......	National Feed Co., St. Louis, Mo.
		Official Analysis...	10.00	16.35	52.90	4.93	4.67	
Ground Corn and Oats....	998	Guarant'd Analysis	5.80	10.75	65.00	5.15	......	Baker & Holmes Co., Jacksonville, Fla.
		Official Analysis...	4.65	10.75	64.70	5.63	2.30	
Maizefalfa Feed	999	Guarant'd Analysis	11.00	10.00	60.00	4.00	......	The Great Western Cereal Co., Chicago, Ill.
		Official Analysis...	11.35	10.44	59.81	4.15	3.90	
Purina Feed	1000	Guarant'd Analysis	8.90	12.50	58.00	4.00	......	Ralston Purina Co., St. Louis, Mo.
		Official Analysis...	9.92	11.67	59.52	4.45	3.03	
Creamo Dairy Feed......	1001	Guarant'd Analysis	19.50	14.50	45.00	5.00	......	The Corno Mills Co., St. Louis, Mo.
		Official Analysis...	24.83	14.35	41.65	4.02	5.05	

OFFICIAL FEEDING STUFF ANALYSES, 1910—Continued.

NAME, OR BRAND.	Laboratory Number.		Fiber.	Protein.	Starch and Sugar.	Fat.	Ash.	NAME AND ADDRESS OF MANUFACTURERS.
Stafolife Feed	1002	Guarant'd Analysis	12.75	11.00	53.00	6.00	......	Lawrence & Hamilton Co., New Orleans, La.
		Official Analysis...	15.48	10.27	49.15	5.42	9.32	
Cotton Seed Meal.........	1003	Guarant'd Analysis	......	38.52	......	......	......	Florida Cotton Oil Co., Jacksonville, Fla.
		Official Analysis...	11.08	37.64	28.32	7.50	5.39	
Excelsior Chop Feed......	1004	Guarant'd Analysis	11.00	8.00	60.00	3.50	......	The Great Western Cereal Co., Chicago, Ill.
		Official Analysis...	9.85	8.34	62.17	5.06	3.02	
Pure Wheat Middlings....	1005	Guarant'd Analysis	7.00	16.00	56.00	4.00	......	National Feed Co., St. Louis, Mo.
		Official Analysis...	10.89	17.11	49.28	5.36	4.52	
Pure Wheat Bran.........	1006	Guarant'd Analysis	9.50	14.50	54.00	5.00	......	Tennessee Mill Co., Estill Springs, Tenn.
		Official Analysis...	8.21	14.65	53.49	4.03	6.13	
Cotton Seed Meal........	1007	Guarant'd Analysis	......	38.62	......	......	......	Montezuma Mfg. Co., Montezuma, Ga.
		Official Analysis...	10.52	38.79	24.38	7.95	8.23	
Cotton Seed Meal........	1008	Guarant'd Analysis	......	38.62	......	......	......	Camilla Cotton Oil and Fertilizer Co., Camilla, Ga.
		Official Analysis...	13.87	38.17	24.38	7.08	5.62	
Durham Brand, C. S. M...	1009	Guarant'd Analysis	......	25.75	......	......	......	Florida Cotton Oil Co., Jacksonville, Fla.
		Official Analysis...	21.04	25.27	26.83	8.05	2.92	

"Arab" Horse Feed......	1010	Guarant'd Analysis	15.00	9.00	59.00	2.00	......	M. C. Peters Mill Co., Omaha,
		Official Analysis...	11.73	10.27	69.68	2.38	4.52	Neb.
Star Middlings	1011	Guarant'd Analysis	8.00	15.00	54.00	4.00	......	Star and Crescent Milling Co.,
		Official Analysis...	8.32	16.50	55.80	5.54	2.47	Chicago, Ill.
Action Horse Feed........	1012	Guarant'd Analysis	......	11.50	53.60	4.20	......	Commonwealth Feed Mills Co.,
		Official Analysis...	18.90	14.92	47.59	3.02	4.65	St. Louis, Mo.
Wheat Middlings	1013	Guarant'd Analysis	8.50	14.50	45.00	5.10	5.50	Hubbard Milling Co., Mankato,
		Official Analysis...	8.25	15.09	53.83	5.88	5.73	Minn.
Pure Wheat Middlings....	1014	Guarant'd Analysis	5.18	17.11	58.18	4.41	......	George P. Plant Milling Co.,
		Official Analysis...	4.98	17.02	59.06	4.65	3.13	St. Louis, Mo.
Peck's Mule Feed........	1015	Guarant'd Analysis	11.90	10.00	57.00	3.80	......	Illinois Feed Mills, St. Louis,
		Official Analysis...	14.05	11.35	51.31	4.36	8.25	Mo.
Blue Ribbon Feed........	1016	Guarant'd Analysis	10.50	9.75	62.00	3.75	......	The Quaker Oats Co., Chicago,
		Official Analysis...	10.91	9.96	61.70	2.58	4.10	Ill.
Wheat Bran	1017	Guarant'd Analysis	10.00	14.85	54.60	3.58	......	Yates & Donelson Co., Memphis, Tenn.
		Official Analysis...	7.65	14.92	56.60	3.87	5.21	
Pure Wheat Bran........	1018	Guarant'd Analysis	9.50	14.50	52.00	4.00	......	J. Allen Smith Co., Knoxville,
		Official Analysis...	8.02	14.65	53.94	3.89	6.53	Tenn.
Cotton Seed Meal.........	1019	Guarant'd Analysis	......	38.62	......	......	......	The Buckeye Cotton Oil Co.,
		Official Analysis...	11.76	38.00	28.77	6.25	5.40	Selma, Ala.
Cotton Seed Meal.........	1020	Guarant'd Analysis	......	38.62	......	......	......	The Southern Cotton Oil Co.,
		Official Analysis...	14.17	40.45	20.85	7.99	6.15	Pensacola, Fla.

OFFICIAL FEEDING STUFF ANALYSES, 1910—Continued.

NAME, OR BRAND.	Laboratory Number.		Fiber.	Protein.	Starch and Sugar.	Fat.	Ash.	NAME AND ADDRESS OF MANUFACTURERS.
Schumacher Special Horse Feed	1021	Guarant'd Analysis	8.00	9.25	64.50	3.25	......	The Quaker Oats Co., Chicago, Ill.
		Official Analysis...	7.66	9.39	66.92	2.70	2.64	
Choice Bran	1022	Guarant'd Analysis	9.50	14.95	53.25	5.35	......	Hecker - Jones - Jewell Milling Co., New York.
		Official Analysis...	11.34	15.01	51.21	3.02	5.53	
Corno Horse & Mule Feed	1023	Guarant'd Analysis	12.00	10.00	58.50	3.50	......	The Corno Mills Co., St. Louis, Mo.
		Official Analysis...	11.31	10.27	59.74	3.05	3.66	
Hammond Dairy Feed....	1024	Guarant'd Analysis	11.00	17.00	50.00	3.00	......	Western Grain Products Co., Hammond Ind.
		Official Analysis...	12.23	17.50	47.19	2.98	8.08	
Wheat Bran	1025	Guarant'd Analysis	10.50	14.00	55.00	3.95	......	Dahnke-Walker Milling Co., Union City, Tenn.
		Official Analysis...	8.70	14.39	55.66	3.71	5.87	
U-N-I. Feed, "A" Grade....	1026	Guarant'd Analysis	14.40	13.03	53.47	2.15	......	United Grocery Co., Jacksonville, Fla.
		Official Analysis...	14.85	12.46	48.97	2.82	8.75	
Ship Stuff	1027	Guarant'd Analysis	7.00	14.50	54.00	4.00	......	The Dunlop Mills, Richmond, Va.
		Official Analysis...	6.98	14.65	57.43	4.18	4.52	
Purina Feed	1028	Guarant'd Analysis	8.90	12.50	58.00	4.00	......	Ralston Purina Co., St. Louis, Mo.
		Official Analysis...	11.85	12.55	56.16	3.11	4.37	

Pure Wheat Bran.........	1029	Guarant'd Analysis	9.50	14.50	54.00	5.00	......	Tennessee Mill Co., Estill Springs, Tenn.
		Official Analysis...	10.16	14.74	53.72	3.13	6.32	
Bran and Shorts Mixed..	1030	Guarant'd Analysis	7.36	16.14	56.36	4.55	......	Lillie Mill Co., Franklin, Tenn.
		Official Analysis...	6.35	16.67	57.12	3.34	4.64	
U-N-I. Dairy Feed........	1031	Guarant'd Analysis	11.85	21.59	47.31	3.98	......	United Grocery Co., Jacksonville, Fla.
		Official Analysis...	11.97	20.71	45.66	4.88	5.19	
Cotton Seed Meal........	1032	Guarant'd Analysis	......	38.62	......	......	......	Montezuma Manufacturing Co., Montezuma, Ga.
		Official Analysis...	11.30	38.61	26.91	8.00	5.65	
Victor Feed	1033	Guarant'd Analysis	12.00	7.50	62.00	3.00	......	The Quaker Oats, Co., Chicago, Ill.
		Official Analysis...	9.45	7.99	63.65	3.57	3.08	
Heavy Draught Feed......	1034	Guarant'd Analysis	4.30	10.35	64.43	3.42	......	United Grocery Co., Jacksonville, Fla.
		Official Analysis...	5.90	10.27	63.37	4.21	4.17	
U-N-I. Scratch Feed.......	1035	Guarant'd Analysis	4.50	10.50	64.50	3.50	......	United Grocery Co., Jacksonville, Fla.
		Official Analysis...	2.08	10.30	69.95	3.41	1.55	
Pure Wheat Bran........	1036	Guarant'd Analysis	9.50	15.50	54.00	4.50	......	City Mill and Grain Co., Columbia, Tenn.
		Official Analysis...	10.78	15.36	50.98	3.77	6.17	
M. Middlings	1037	Guarant'd Analysis	5.70	17.81	54.44	6.40	4.55	Hecker-Jones-Jewell Milling Co., New York.
		Official Analysis...	6.84	17.29	55.64	4.00	4.32	
Wheat Feed	1038	Guarant'd Analysis	8.00	15.00	58.00	4.00	......	Atlanta Milling Co., Atlanta, Ga.
		Official Analysis...	5.96	14.13	59.27	3.47	4.15	
M. Middlings	1039	Guarant'd Analysis	5.70	17.81	54.44	6.40	4.55	Hecker-Jones-Jewell Milling Co., New York.
		Official Analysis...	6.05	16.15	58.49	3.82	4.08	

OFFICIAL FEEDING STUFF ANALYSES, 1910—Continued.

NAME, OR BRAND.	Laboratory Number.		Fiber.	Protein.	Starch and Sugar.	Fat.	Ash.	NAME AND ADDRESS OF MANUFACTURERS.
Boss Feed	1040	Guarant'd Analysis	11.00	8.00	60.00	3.50	......	The Great Western Cereal Co.,
		Official Analysis...	11.62	8.30	61.56	4.12	4.58	Chicago, Ill.
Purina Feed	1041	Guarant'd Analysis	8.90	12.50	58.00	4.00	......	Ralston Purina Co., St. Louis,
		Official Analysis...	9.18	12.02	60.18	4.02	3.45	Mo.
El Reno Alfalfa..........	1042	Guarant'd Analysis	16.00	12.00	56.00	2.50	......	El Reno Alfalfa Milling Co.,
		Official Analysis...	17.70	12.46	50.68	2.50	4.79	El Reno, Okla.
Chamberlain's Perfect Feed	1043	Guarant'd Analysis	6.00	10.00	60.00	3.50	......	W. F. Chamberlain Feed Co.,
		Official Analysis...	3.40	9.65	65.65	2.88	6.30	St. Louis, Mo.
Winter Wheat Middlings..	1044	Guarant'd Analysis	7.00	16.00	56.00	4.00	......	National Feed Co., St. Louis,
		Official Analysis...	7.47	16.15	56.07	4.90	4.96	Mo.
Soft Wheat Mixed Feed..	1045	Guarant'a Analysis	8.00	14.50	55.00	4.00	......	Hunter-Robinson-Wenz Milling
		Official Analysis...	8.39	14.40	55.90	3.56	5.57	Co., St. Louis, Mo.
Pure Wheat Bran........	1046	Guarant'd Analysis	9.50	14.50	50.00	4.00	......	Liberty Mills, Nashville, Tenn.
		Official Analysis...	10.00	14.22	54.29	3.55	6.57	
Acme Feed	1047	Guarant'd Analysis	......	6.00	50.00	3.00	......	Valley Milling Co., St. Louis,
		Official Analysis...	2.52	9.65	71.78	2.90	1.68	Mo.

Wheat Bran	1048	Guarant'd Analysis	......	14.30	55.20	3.55	......	Bernett, Craft & Kauffman Milling Co., St. Louis, Mo.
		Official Analysis...	10.96	15.18	51.69	4.35	6.50	
Stafolife Feed	1049	Guarant'd Analysis	12.75	11.00	53.00	6.00	......	Lawrence & Hamilton Feed Co., New Orleans, La.
		Official Analysis...	10.93	10.45	55.42	5.34	8.78	
Cooked Horse Feed	1050	Guarant'd Analysis	10.00	11.50	60.76	5.48	......	Nashville Feed Co., Nashville, Tenn.
		Official Analysis...	7.19	11.50	60.98	3.75	6.33	
Cotton Seed Meal, Forest City Brand	1051	Guarant'd Analysis	......	23.00	30.00	4.50	......	The Southern Cotton Oil Co., Savannah, Ga.
		Official Analysis...	18.18	23.08	34.97	6.14	4.93	
Cotton Seed Meal	1052	Guarant'd Analysis	......	38.62	......	......	......	Central Oil and Fertilizer Co., Cordele, Ga.
		Official Analysis...	8.40	38.70	30.13	8.43	6.10	
Cotton Seed Meal	1053	Guarant'd Analysis	......	38.62	......	......	......	McCaw Manufacturing Co., Macon, Ga.
		Official Analysis...	12.83	35.68	21.26	7.11	5.45	
Cotton Seed Meal	1054	Guarant'd Analysis	......	38.62	......	......	......	Americus Oil Co., Americus, Ga.
		Official Analysis...	11.84	37.91	29.53	6.46	5.30	
White Shorts	1055	Guarant'd Analysis	5.70	17.81	54.44	6.40	4.55	Hecker-Jones-Jewell Milling Co., New York, N. Y.
		Official Analysis...	6.42	16.76	55.40	4.18	5.49	
Winter Wheat Fancy Shorts	1056	Guarant'd Analysis	3.90	16.36	62.66	4.50	3.15	Akin-Erskine Milling Co., Evansville, Ind.
		Official Analysis...	5.40	16.50	54.72	4.26	7.52	
Alla Fat Horse Feed	1057	Guarant'd Analysis	10.50	12.00	61.96	3.75	......	Just Milling and Feed Co., Nashville, Tenn.
		Official Analysis...	9.46	13.51	57.31	3.29	4.44	
Cotton Seed Meal	1058	Guarant'd Analysis	12.00	38.62	23.00	6.00	......	Keeton-Krueger Co., Atlanta Ga.
		Official Analysis...	9.15	40.63	29.20	7.14	5.63	

OFFICIAL FEEDING STUFF ANALYSES, 1910—Continued.

NAME, OR BRAND.	Laboratory Number.		Fiber.	Protein.	Starch and Sugar.	Fat.	Ash.	NAME AND ADDRESS OF MANUFACTURERS.
Pure Wheat Bran.........	1059	Guarant'd Analysis	9.50	14.50	52.00	4.00	......	J. Allen Smith & Co., Knoxville, Tenn.
		Official Analysis...	9.42	15.01	53.91	3.37	8.00	
Acme Feed	1060	Guarant'd Analysis	......	6.00	50.00	3.00	......	The Valley Milling Co., St. Louis, Mo.
		Official Analysis...	3.27	8.51	71.81	3.23	1.47	
Sucrene Horse and Mule Feed	1061	Guarant'd Analysis	12.00	10.00	50.00	3.00	......	American Milling Co., Chicago, Ill.
		Official Analysis...	9.82	10.35	59.83	2.08	5.13	
Cotton Seed Meal........	1062	Guarant'd Analysis	......	38.62	......	......	......	Quitman Oil Co., Quitman, Ga.
		Official Analysis...	11.07	38.26	29.18	7.09	5.87	

DEPARTMENT OF AGRICULTURE—DIVISION OF CHEMISTRY.

FOOD AND DRUGS SECTION.

R. E. Rose, State Chemist. SPECIAL FOOD ANALYSES, 1910. A. M. Henry, Asst. Chemist.

Samples Taken by Purchaser Under Section 10, Act Approved June 7, 1909.

ALCOHOLIC DRINKS.

Laboratory Number.	NAME, OR BRAND.	MANUFACTURER.	Alcohol—(per cent by volume.)	FROM.
316	White Top	The Capitol Brewing and Ice Co., Montgomery, Ala.	4.87	C. F. Prevatt, Kissimmee, Sheriff of Osceola County.
317	Dukehart's Malt Tonic	Dukehart Manufacturing Co., Baltimore, Md.	....	W. E. Dennard, Lake City, Sheriff of Columbia County.
318	Cider	....	5.87	E D. Webster, DeFuniak Springs, Deputy Sheriff of Walton County.
320	Beer	....	2.77	R. T. Butler, Kissimmee.
321	White Top	The Capitol Brewing and Ice Co., Montgomery, Ala.	5.02	R. T. Butler, Kissimmee.
322	White Top	The Capitol Brewing and Ice Co., Montgomery, Ala.	3.08	C. F. Prevatt, Kissimmee, Sheriff of Osceola County.
323	Beer	....	2.33	C. F. Prevatt, Kissimmee, Sheriff of Osceola County
324	White Top	The Capitol Brewing and Ice Co., Montgomery, Ala.	4.86	C. F. Prevatt, Kissimmee, Sheriff of Osceola County.

SPECIAL FOOD ANALYSES, 1910—ALCOHOLIC DRINKS.—Continued.

Laboratory Number.	NAME, OR BRAND.	MANUFACTURER.	Alcohol—(per cent by volume.)	FROM.
326	Tempero, less than 2 per cent. Alcohol.	Standard Brewing Co., New Orleans, La.	0.95	R. T. Butler, Kissimmee.
327	Cider	....	5.09	Lee Hux, Eustis, Marshal.
328	White Top, less than 2 per cent. Alcohol.	The Capitol Brewing and Ice Co., Montgomery, Ala.	3.03	W. S. Preston, Bartow, County Judge of Polk County.
329	Georgia Home Beer	....	3.42	E. H. Waters, Gainesville.
330	Florida Bud, less than 2 per cent. Alcohol.	The Florida Brewing Co., Tampa, Fla.	2.02	W. S. Preston, Bartow, County Judge of Polk County.
334	White Top—less than 2% alcohol	The Capitol Brewing & Ice Co., Montgomery, Ala.	5.30	. W. Moore, Jr., Milligan.
335	Beer, "No. 1."..................	....	3.85	J. P. Brown, Titusville, Sheriff of Brevard County.
336	Beer "No. 2."..................	....	4.96	J. P. Brown, Titusville, Sheriff of Brevard County.
337	Tonic	....	0.84	James S. Gee, Quincy, Marshall of Quincy.

338	White Top—less than 2% alcohol	The Capitol Brewing & Ice Co., Montgomery, Ala.	5.62	A. D. Burnes, Graceville, Marshall of Graceville.
339	White Top—less than 2% alcohol	The Capitol Brewing & Ice Co., Montgomery, Ala.	5.54	Paul Carter, Marianna.
340	White Top—less than 2% alcohol	The Capitol Brewing & Ice Co., Montgomery, Ala.	5.54	Paul Carter, Marianna.
341	White Top—less than 2% alcohol	The Capitol Brewing & Ice Co., Montgomery, Ala.	5.54	Paul Carter, Marianna.
342	Chatt.—1 71-100% alcohol........	Chattanooga Brewing Co.....	2.33	T. L. McIntosh, Graceville.
343	Louisiana Golden Gems..........	New Orleans Brewing Co., New Orleans, La.	2.23	F. F. Pelt, Chipley.
344	Louisiana Golden Gems.........	New Orleans Brewing Co., New Orleans, La.	1.96	A. D. Carmichael, Chipley.
345	Uncle's Special—less than 2% alcohol.	New Orleans Brewing Co., New Orleans, La.	1.72	Paul Carter, Marianna.
346	Louisiana Golden Gems..........	New Orleans, La. New Orleans Brewing Co.,	2.23	Paul Carter, Marianna.
347	A Beverage	....	3.70	J. P. S. Houston, Tallahassee, Sheriff of Leon County.
348	"Acme" Maltale................	Acme Brewing Co., Macon, Ga.	3.83	J. L. Davidson, Quincy.

SPECIAL FOOD ANALYSES, ALCOHOLIC DRINKS—Continued.

Laboratory Number.	NAME, OR BRAND.	MANUFACTURER.	Alcohol— (per cent by volume.)	FROM.
349	Beer	Acme Brewing Co., Macon, Ga.	4.87	J. L. Davidson, Quincy.
350	Georgia Home Beer............	....	3.71	J. L. Davidson, Quincy.
351	White Top—less than 2% alcohol	The Capitol Brewing & Ice Co., Montgomery. Ala.	5.52	Joel R. Wells, Panama City.
352	White Top—less than 2% alcohol	The Capitol Brewing & Ice Co., Montgomery, Ala.	5.36	Joel R. Wells, Panama City.
353	White Top—less than 2% alcohol	The Capitol Brewing & Ice Co., Montgomery, Ala.	5.44	Joel R. Wells, Panama City.
354	White Top—less than 2% alcohol	The Capitol Brewing & Ice Co., Montgomery, Ala.	5.51	Joel R. Wells, Panama City.
355	White Top—less than 2% alcohol	The Capitol Brewing & Ice Co., Montgomery, Ala.	5.44	John J. Ward, Panama City.

356	White Top—less than 2% alcohol	The Capitol Brewing & Ice Co., Montgomery, Ala.	5.07	John J. Ward, Panama City.
357	White Top—less than 2% alcohol	The Capitol Brewing & Ice Co., Montgomery, Ala.	5.00	John J. Ward, Panama City.
358	White Top—less than 2% alcohol	The Capitol Brewing & Ice Co., Montgomery, Ala.	3.40	J. R. Sandlin, Punta Gorda.
359	White Top—less than 2% alcohol	The Capitol Brewing & Ice Co., Montgomery, Ala.	4.57	C. O. Andrews, DeFuniak Springs, County Judge of Walton County.
360	Duesseldorfer Style Beer........	Indianapolis Brewing Co., Indianapolis, Ind.	4.50	P. G. Ramsay, Gainesville, Sheriff of Alachua County.
361	Beer	....	4.25	P. G. Ramsay, Gainesville, Sheriff of Alachua County.
362	Beer	....	3.47	P. G. Ramsay, Gainesville, Sheriff of Alachua County.
363	Beer	....	3.58	P. G. Ramsay, Gainesville, Sheriff of Alachua County.
365	Near Beer....................	....	1.98	W. E. Dennard, Lake City, Sheriff of Columbia County.

SPECIAL FOOD ANALYSES, 1910—Continued.

MISCELLANEOUS.

No.	NAME, OR BRAND.	RESULTS OF EXAMINATION.		FROM.
311	Sweet Potato Flour	Water (per cent.)	8.23	A. F. Spawn, Fernandina.
		Crude Fiber (per cent.)	1.92	
		Ash (per cent.)	1.99	
		Protein (per cent.)	1.75	
		Fat (per cent.)	0.57	
		Starch (per cent.)	58.20	
		Undetermined (per cent.)	27.34	
312	Cassava Flour	Water (per cent.)	8.50	A. F. Spawn, Fernandina.
		Crude Fiber (per cent.)	1.60	
		Ash (per cent.)	1.30	
		Protein (per cent.)	1.63	
		Fat (per cent.)	0.46	
		Starch (per cent.)	69.33	
		Undetermined (per cent.)	17.18	
314	Milk	Total Solids (per cent.)	4.85	H. W. Smith, Punta Gorda.
		Fat (per cent.)	1.00	
		Solids Not Fat (per cent.)	3.85	

319	Detroit Special Table Salt	Water (per cent.)	0.11	C. M. Puddy & Co., Palatka.
		Chlorids, as Sodium Chlorid (per cent.)	97.32	
		Bicarbonates, as Sodium Bicarbonate (per cent.)	2.69	
325	Milk	Fat (per cent.)	2.60	Dr. J. E. Pennington, Wellborn.
331	Sugar	Ash (per cent.)	0.0055	B. J. Boodleson, Laurel Hill.
		Fuller's Earth	Absent.	
332	Artificial Vanilla Extract	Specific gravity at 15° C	1.03125	Consolidated Grocery Co., Pensacola.
		Alcohol (per cent by vol.)	17.60	
		Vanillin (per cent)	0.564	
		Coumarin	Absent	
		Resins	Trace.	
		Coloring matter	Caramel.	
		Lead acetate precipitate	Slight.	
364	Base for Imitation Cider	Alcohol (per cent by vol.)	7.57	Leon Fruto Co., Tallahassee.
366	Sirup	Sucrose (per cent.)	48.11	C. S. Dishong, Fort Meade.
		Glucose polarizing at 175° V (per cent)	4.60	

CONFECTIONERY.

In the language of the Pure Food and Drugs Law of Florida confectionery is deemed to be adulterated "If it contains terra-alba, barytes, talc, chrome yellow or other mineral substance or poisonous color or flavor, or other ingredients deleterious or detrimental to health, or any vinous, malt, or spirituous liquor, or compound or narcotic drug."

The standard for confectionery is:

Candy is a product made from a saccharine substance or substances with or without the addition of harmless coloring, flavoring, or filling materials and contains no terra-alba, barytes, talc, chrome yellow, or other mineral substances, or poisonous colors or flavors, or other ingredients deleterious or detrimental to health, or any vinous, malt or spirituous liquor or compound, or narcotic drug.

No.	LABEL.	RETAILER.	Ash Per Cent.	COLOR.	REMARKS.
401-A	All-Day Suckers	Tampa Candy Co., Tampa	0.22	Cochineal	Legal.
401-B	Cocoanut Haystacks	Tampa Candy Co., Tampa	0.58	Vegetable	Legal.
401-C	Honey Kisses, Tibbetts Bros., Tampa, Florida.	Tampa Candy Co., Tampa	0.27	Vegetable	Legal.
402-A	Jelly Beans	S. H. Kress & Co., Tampa	0.20	Coal tar dye	Legal.
402-B	Eclipse Jelly Drops	S. H. Kress & Co., Tampa	0.20	Coal tar dye	Legal.
402-C	Queen Creams	S. H. Kress & Co., Tampa	0.12	Coal tar dye	Legal.
402-D	Peppermint Lozenges	S. H. Kress & Co., Tampa	0.09	None	Legal.

402-E	Wintergreen	S. H. Kress & Co., Tampa	0.05	Coal tar dye	Legal.
426-A	Stick Candy	E. J. Smith Co., Jacksonville	Trace	Coal tar dye	Legal.
426-B	Peppermint Cakes	E. J. Smith Co., Jacksonville	Trace	Coal tar dye	Legal.
426-C	Butter Cups	E. J. Smith Co., Jacksonville	0.41	Coal tar dye	Legal.
426-D	Peanut Butter Kisses	E. J. Smith Co., Jacksonville	0.97	Coal tar dye	Legal.
426-E	Smith's Mentopine Cough Drops	E. J. Smith Co., Jacksonville	0.04	Coal tar dye	Legal.
427-A	Stick Candy	Van. Deman & Lewis Co., Jacksonville	0.52	Coal tar dye	Legal.
427-B	Jap Cocoanut	Van Deman & Lewis Co., Jacksonville	0.33	Coal tar dye	Legal.
427-C	Mixed Candy	Van Deman & Lewis Co., Jacksonville	0.17	Coal tar dye	Legal
427-D	Novelty Whistles	Van Deman & Lewis Co., Jacksonville	0.11	Coal tar dye	Legal.
427-E	Mint Balls	Van Deman & Lewis Co., Jacksonville	0.05	Coal tar dye	Legal.

OFFICIAL FOOD ANALYSES, 1910—Continued.

MISCELLANEOUS.

No.	Name, or Brand.	Manufacturer.	Retailer.	Results.	Remarks.
357	Dandelion Brand Butter Color.....	Wells & Richardson Co., Burlington, Vt.	Holmes Drug Co., Tallahassee.	Anatto dissolved in a vegetable oil.	Legal.
428	Lucky Strike Fresh Roasted Coffee....	Savannah Coffee Co., Savannah, Ga.	Live Oak Grocery Co., Live Oak.	Moisture (per cent).....10.37 Fat (per cent).......... 8.85 Ash (per cent)......... 4.04 No adulteration detected by microscopic examination.	Legal.

R. E. RO Y.

A. M. HENRY, Assistant Chemist.

Number.		Butter Fat (per cent.)	Index of Refraction at 25° C. (Butyro-Refractometer.)	Reichert-Meissel Number.	Color.	Spoon Test.	Remarks.
317	Clover	83.39	1.4607	27.73	....	Foams	Legal.
318	Brookfie	81.84	1.4601	26.11	....	Foams	Legal.
319	Butter	82.75	1.4601	25.51	Azo Dye	Foams	Legal.
320	Clover ery B	86.60	1.4610	27 71	....	Foams	Legal.
321	I. D. L.	84.69	1.4612	24.19	....	Foams	Legal.
322	"4 Cro	81.02	1.4601	25.38	....	Foams	Legal.
323	Swastik	80.50	1.4604	24.65	....	Foams	Legal.
324	Ball's "	81.95	1.4604	24.94	....	Foams	Legal.
325	S. J. D Crean	82.43	1.4612	26.49	....	Foams	Legal.
326	Creame	85.91	1.4604	24.17	....	Foams	Legal.
327	Mickle Butte	85.44	1.4[illegible]1	29.19	....	Foams	Legal.
328	Butter	77.04	1.4607	21.84	....	Sputters	*Illegal.
329	Renova	84.94	1.4604	23.00	....	Sputters	Legal.
330	Diamo	83.31	1.4612	26.41	....	Foams	Legal.
331	Butter	82.76	1.4612	25.21	....	Foams	Legal.
332	Meado	80.25	1.4602	23.68	....	Foams	Legal.
333	Butter	86.34	1.4607	28.95	....	Foams	Legal.
334	Monog	93.05	1.4604	28.71	....	Foams	Legal.
335	Butter	86.54	1.4607	27.51	....	Foams	Legal.

*Adulterated with water and salt.

Butter .... R. Bradford, Ta Legal.

utter .... H. P. Smith, Ta Legal.

tinued.

Continued.

Water (per cent.)	Caesin (per cent.)	Ash (Salt) (per cent.)	Butter Fat (per cent.)	Index of Refraction at 25° C. (Butyro-Refractometer.)	Reichert-Meissel Number.	Color.	Spoon Test.	Remarks.
13.41	1.13	1.87	83.58	1.4602	28.24	....	Foams	Legal.
16.00	1.08	1.85	81.06	1.4607	28.44	....	Foams	Legal.
10.25	0.83	2.12	86.80	1.4616	23.99	Azo Dye	Foams	Legal.
26.74	1.28	6.04	65.94	1.4607	25.55	Azo Dye	Foams	*Illegal.
11.67	1.04	1.51	85.78	1.4616	25.21	....	Foams	Legal.
13.42	1.81	2.78	82.08	1.4609	20.02	....	Foams	Legal.
13.72	0.89	3.26	82.12	1.4612	27.89	....	Foams	Legal.
8.04	0.76	1.02	90.17	1.4618	22.62	....	Foams	Legal.
15.51	1.93	5.54	77.00	1.4608	22.52	....	Foams	*Illegal.
15.32	2.19	1.70	80.80	1.4607	20.69	....	Foams	Legal.
11.39	2.52	3.04	83.05	1.4607	19.85	....	Foams	Legal.
10.82	1.49	2.37	85.32	1.4603	28.80	....	Foams	Legal.
14.35	1.24	4.21	80.20	1.4615	24.05	....	Foams	Legal.
3.51	1.30	1.31	83.88	1.4613	26.57	....	Foams	Legal.
9.87	2.13	4.80	72.20	1.4609	25.35	....	Sputters	*Illegal.
2.45	1.10	2.32	84.13	1.4612	29.18	....	Foams	Legal.
3.83	1.38	3.44	81.34	1.4607	27.30	....	Sputters	Legal.
0.75	1.69	2.37	84.76	1.4639	2.66	....	Sputters	Legal.
9.63	1.25	8.57	80.75	1.4603	26.91	....	Foams	Legal.
3.33	1.78	3.36	81.53	1.4608	25.40	....	Sputters	Legal.
2.42	1.48	3.56	83.04	1.4610	26.13	Azo Dye	Sputters	Legal.
8.72	1.00	1.31	88.96	1.4641	5.76	....	Sputters	Legal.
3.55	1.05	3.10	82.30	1.4607	27.53	....	Foams	Legal.
.16	0.73	3.67	83.44	1.4608	26.37	....	Foams	Legal.
		8.38	81.64	1.4612	20.80	....	Foams	Legal.
		1.62	84.03	1.4607	28.11	....	Foams	Legal.

DEPARTMENT OF AGRICULTURE—DIVISION OF CHEMISTRY.

R. E. ROSE, State Chemist. **FOOD AND DRUG SECTION.** A. M. HENRY, Assistant Chemist.

Samples Taken by Purchaser Under Section 10, Act Approved June 7, 1909.

SPECIAL DRUG ANALYSES, 1910.

MISCELLANEOUS.

No.	SUBSTANCE.	RESULTS OF EXAMINATION.	FROM.
313	Powder from Pocket of a Burglar	Morphine Sulfate	A. McCarty, Tallahassee.
315	Skin Lotion, Mrs. L. Mendoza..	A mixture of zinc oxide and aluminum hydroxid in a perfumed water.	F. Alcman. Tampa.
333	South Florida Blood Purifier, H. S. Silas Medical Co., Kissimmee, Fla.	Specific gravity at 15° C......1.00437 Alcohol (per cent by vol.)......8.80 Total solids (per cent)........3.78 Ash (per cent)................0.25 A mixture of sirup of ferrous iodide, fluid extract of stillingia, a sarsaparilla preparation, and water.	J. W. Luter, Kissimmee.

DEPARTMENT OF AGRICULTURE—DIVISION OF CHEMISTRY.

R. E. ROSE, State Chemist. A. M. HENRY, Asst. Chemist.

FOOD AND DRUG SECTION.

Samples Taken by State Inspector Under Section 9, Act Approved June 3, 1907.

OFFICIAL DRUGS ANALYSES, 1910.

Standards for drugs are, by the Pure Food and Drugs Law, based on the requirements of the United States Pharmacopœia and the National Formulary.

What the United States Pharmacopœia and National Formulary are:

For the information of those who are not physicians nor pharmacists, it should be explained that, as will be apparent on a moment's thought, it was, quite early in the systematizing of medicine, found necessary to have standards of strength for the drugs administered, and convenient to have, likewise, a list of drugs which had approved themselves by their usefulness under long-continued trial. These considerations have impelled the people of every civilized country to adopt such a list of official drugs, with standards of purity and strength therefor. These lists are supposed to contain practically all such drugs that a physician may in all diseases be called on to prescribe, or the pharmacist to use, and hence the comprehensive title, Pharmacopœia, is bestowed upon it. In some countries the publication of the Pharmacopœia is under the direct control of the Government; in the United States, it has for about a hundred years been published by a body composed of representatives of the medical, pharmaceutical and allied professions. This body revises the book every ten years, meetings being held decennially for that purpose, the last one being in May of the current year. This book, so published, is known as the United States Pharmacopœia.

and has, therefore, for a hundred years been the standard reference book for drugs in the United States.

The National Formulary is published in very much the same way by the American Pharmaceutical Association, and covers a slightly different field. It is not so old as the Pharmacopœia.

Now, the Florida Pure Food and Drug Laws, as well as the national food and drug act, and that of most the other States, has made the standards of these two books legal, and every pharmacist in the land can know what the law requires that any drug shall be. There can, therefore, be no excuse of ignorance for failure to comply with the law.

In so far as the number of those in good health is vastly greater than those in sickness, the adulteration of food reaches almost entirely the healthy. The sophistication of drugs, however, reaches those utterly unable to help themselves; life itself may, and often does, depend upon the purity and strength of the medicine administered. The obligation upon the pharmacist, not only to do the very best he knows, but to know his work thoroughly, is correspondingly great, and he should not let the commercial feature of his work in any way obscure this higher side of his profession. The public, likewise, as always, owes a duty to itself. High-grade work and high-grade drugs are incompatible with beating the druggist's prices down to the very lowest notch, and the public should patronize the reliable, rather than the cheap man.

The language of the Florida law, as to purity, provides that a drug shall be deemed to be adulterated if it "differs from the standard of strength, quality or purity, as determined by the test laid down in the United States Pharmacopœia or National Formulary," etc. A drug, therefore, which is much above the standard in strength may as truly be adulterated as one much below that strength, and is almost certain to be more dangerous. A limit of 10 per cent. variation from the standard has been tentatively adopted for drugs. All strengths are given and are also calculated in percentages of the strength required by the standards.

OFFICIAL DRUG ANALYSES, 1910—Continued.

JAMAICA GINGER.

The extract or essence of Jamaica Ginger is neither a preparation of the U. S. Pharmacopoeia nor National Formularly, consequently there has been no standard prescribed for it. The Pure Food and Drugs Law requires the statement on the label as to the percentage of alcohol.

No.	LABEL.	DRUGGIST or RETAILER	Specific Gravity at 15° C.	Alcohol Per Cent by Volume.	Total Solids Per Cent.	Ash Per Cent.	REMARKS.
376	Rexall Jamaica Ginger—63% alcohol. United Drug Co., Boston, Mass.	Wilson Drug Co., Bartow.	0.90350	64.40	1.41	0.138	Legal.
378	Concentrated Essence of Jamaica Ginger—49.5% alcohol. Allan-Pfeiffer Chem. Co.	Harry Cross, Arcadia.	0.93400	40.60	0.75	0.047	Legal.
384	Ess. Jamaica Ginger.	Tampa Drug Co., Tampa.	0.82435	92.80	1.83	0.024	Illegal—misbranded. No alcohol statement.
395	Ess. Jamaica Ginger.	Thomas' Pharmacy, Bradentown.	0.82130	93.65	0.76	0.024	Illegal—misbranded. No alcohol statement.
449	Ext. Jamaica Ginger.	Hardee-Smith Co., Tallahassee.	0.91700	58.40	1.17	0.147	Illegal—misbranded. No alcohol statement.

450	Essence of Jamaica Ginger — 93% alcohol.	Tallahassee Drug Co., Tallahassee.	0.82500	92.60	0.98	0.024	Legal.
452	Extract Jamaica Ginger—93% alcohol.	The Holmes Drug Co., Tallahassee.	0.82395	92.90	0.80	trace	Legal.
453	Concentrated Essence Jamaica Ginger.	Dr. A. S. Jerry, Tallahassee.	0.98186	14.30	1.62	0.188	Illegal—misbranded. No alcohol statement.

OFFICIAL DRUG ANALYSES, 1910.—Continued.

JAMAICA GINGER.

The extract or essence of Jamaica Ginger is neither a preparation of the U. S. Pharmacopoeia nor National Formularly, consequently there has been no standard prescribed for it. The Pure Food and Drugs Law requires the statement on the label as to the percentage of alcohol.

No.	LABEL.	DRUGGIST or RETAILER	Specific Gravity at 15° C.	Alcohol Per Cent by Volume.	Total Solids Per Cent.	Ash Per Cent.	REMARKS.
376	Rexall Jamaica Ginger — 63% alcohol. United Drug Co., Boston, Mass.	Wilson Drug Co., Bartow.	0.90350	64.40	1.41	0.138	Legal.
378	Concentrated Essence of Jamaica Ginger—49.5% alcohol. Allan-Pfeiffer Chem. Co.	Harry Cross, Arcadia.	0.93400	40.60	0.75	0.047	Legal.
384	Ess. Jamaica Ginger.	Tampa Drug Co., Tampa.	0.82435	92.80	1.33	0.024	Illegal—misbranded. No alcohol statement.
395	Ess. Jamaica Ginger.	Thomas' Pharmacy, Bradentown.	0.82130	93.65	0.76	0.024	Illegal—misbranded. No alcohol statement.
449	Ext. Jamaica Ginger.	Hardee-Smith Co., Tallahassee.	0.91700	58.40	1.17	0.147	Illegal—misbranded. No alcohol statement.

450	Essence of Jamaica Ginger — 93% alcohol.	Tallahassee Drug Co., Tallahassee.	0.82500	92.60	0.98	0.024	Legal.
452	Extract Jamaica Ginger—93% alcohol.	The Holmes Drug Co., Talhassee.	0.82395	92.90	0.80	trace	Legal.
453	Concentrated Essence Jamaica Ginger.	Dr. A. S. Jerry, Tallahassee.	0.98186	14.30	1.62	0.188	Illegal—misbranded. No alcohol statement.

OFFICIAL DRUG ANALYSES, 1910.—Continued.

LAUDANUM.

(TINCTURA OPII)

The Pharmacopoeia requires that Laudanum should contain in each 100 cubic centimeters of the preparation 10 grams (in each fluid ounce, 45.6 grains) of opium. The Pure Food and Drugs Law requires the quantity or proportion of opium and the percentage of alcohol to be stated on the label. If any artificial coloring or flavoring is used the fact should be conspicuously stated on the label.

No.	LABEL.	DRUGGIST OR RETAILER.	REMARKS.
372	Laudanum.	Winkler's Drug Store, Fort Myers.	Illegal—misbranded. No opium and alcohol statement.
374	Laudanum.	The Corner Drug Store, Bartow.	Illegal—misbranded. No opium and alcohol statement.
380	Laudanum.	Tampa Drug Co., Tampa.	Illegal—misbranded. No opium and alcohol statement.
385	Laudanum.	The Morton Drug Co., Tampa.	Illegal—misbranded. No opium and alcohol statement.
388	Laudanum—45.6 gr. opium to oz., 48% alcohol.	The Hutchinson-Cotter Drug Co., Tampa.	Legal.
404	Laudanum—30 gr. opium to 1 oz., 40% alcohol. The Groover-Stewart Drug Co., Jacksonville, Fla.	Dunnellon Pharmacy, Dunnellon.	Legal.

412	Laudanum—30 gr. opium to fl. oz., 40% alcohol.	The Groover-Stewart Drug Co., Jacksonville.	Legal.
416	Laudanum—9 gr. opium to fl. oz., 45% alcohol.	Southern Drug Manufacturing Co., Jacksonville.	Legal.
421	Laudanum—18.7 gr. opium to fl. oz., 40% alcohol, colored.	United Specialty Co., Jacksonville.	Legal.
431	Laudanum. Greil Bros. Co., Montgomery, Ala.	Patrick Grocery Co., Graceville.	Illegal—misbranded. No opium and alcohol statement.
436	Laudanum.	The R. Lewis Co., Pensacola.	Illegal—misbranded. No opium and alcohol statement.
440	Laudanum.	The Crystal Pharmacy, Pensacola.	Illegal—misbranded. No opium and alcohol statement.
443	Laudanum.	W. A. D'Alemberte, Pensacola.	Illegal—misbranded. No opium and alcohol statement.

OFFICIAL DRUG ANALYSES, 1910.—Continued.

PARAGORIC.

(TINCTURA OPII CAMPHORTA.)

The Pharmacopoeia requires that Paregoric should contain 0.4 gram opium to each 100 cubic centimeters (1.82 grains to each fluid ounce) of the preparation and 47.5 per cent. of alcohol as well as benzoic acid, camphor, glycerin, and oil of anise. Under the Pure Food and Drugs Law the quantity or proportion of opium and the percentage of alcohol must be stated on the label in CAPITAL LETTERS not smaller than 8-point Brevier. If any artificial coloring or flavoring is used the fact must be stated conspicuously on the label.

No.	LABEL.	DRUGGIST or RETAILER	COLOR.	REMARKS.
375	Paregoric—2 gr. opium to oz., 46% alcohol.	Gary's Pharmacy, Bartow.		Legal.
379	Paregoric.	Tampa Drug Co., Tampa.		Illegal — misbranded. No opium and alcohol statement.
386	Paregoric—2 gr. opium to fl. oz., 46% alcohol.	Cotter's Drug Store, Tampa.		Legal.
391	Paregoric.	Taylor Drug Store, Tampa.		Illegal—misbranded. No opium and alcohol statement.
397	Paregoric.	Stansfield & Co., Bradentown.		Illegal—misbranded. No opium and alcohol statement.
406	Paregoric—1.9 gr. opium to fl. oz., 40% alcohol. The Groover-Stew-Drug Co., Jacksonville, Fla.	Mrs. Mary Williams-Allan, Crystal River.	Red Saunders.	Illegal—misbranded. No statement of artificial color.

408	Paregoric—2 gr. opium to fl. oz., 42% alcohol. McCormick & Co., Baltimore, Md.	J. E. Wells, Archer.	....	Legal.
411	Paregoric—1.9 gr. opium to fl. oz., 40% alcohol.	The Groover-Stewart Drug Co., Jacksonville.	Red Saunders.	Illegal—misbranded. No Statement of use of artificial color.
417	Paregoric—0.75 gr. opium to fl. oz., 45% alcohol.	Southern Drug Manufacturing Co., Jacksonville.	....	Legal.
422	Paregoric—1.5 gr. opium to fl. oz., 45% alcohol, colored.	United Specialty Co., Jacksonville.	Caramel.	Legal.
429	Paregoric, D. G. Smith, Madison, Fla.	G. W. Rutherford, Madison.	....	Illegal—misbranded. No opium and alcohol statement.
434	Paregoric.	The R. Lewis Co., Pensacola.	....	Illegal—misbranded. No opium and alcohol statement.
438	Paregoric.	The Crystal Pharmacy, Pensacola.	Red Saunders.	Illegal—misbranded. No opium and alcohol statement. No statement of use of artificial color.
442	Paregoric—Artificially colored.	W. A. D'Alemberte, Pensacola.	Red Saunders.	Illegal—misbranded. No opium and alcohol statement.

OFFICIAL DRUG ANALYSES, 1910—PAREGORIC.—Continued.

No.	LABEL.	DRUGGIST or RETAILER	COLOR.	REMARKS.
447	Paregoric—0.4 of 1% of opium., 50% alcohol. The Frank Tea & Spice Co., Cincinnati, O.	Will L. Moyer, Pensacola.	....	Legal.
448	Paregoric—1.77 gr. opium per oz., 40% alcohol. The Lewis Bear Drug Co., Pensacola, Fla.	Will L. Moyer, Pensacola.	....	Legal.

OFFICIAL DRUG ANALYSES, 1910—Continued.

POTASSIUM IODIDE.

No.	Label.	Manufacturer.	Druggist.	Results.	Remarks.
485	Potassium Iodide..	Drug Merchants of America, 108 Fulton St., N. Y.	Taylor's Drug Store, Tampa.	Sample fulfills requirements of the U. S. Pharmacopoeia	Legal.

OFFICIAL DRUG ANALYSES, 1910.—Continued.

SPIRIT OF CAMPHOR.

(SPIRITUS CAMPHORAE.)

The Pharmacopoeia requires that Spirit of Camphor should contain in each 100 cubic centimeters of the preparation 10 grams (in each fluid ounce 45.6 grains) of gum camphor dissolved in 95% alcohol. There is no reasonable cause for failure with this preparation, for it is easily made of materials that are seldom deficient in purity.

No.	LABEL.	DRUGGIST, OR RETAILER.	CAMPHOR.		REMARKS.
			Grams per 100 C. C.	Per Cent U. S. P. Strength	
373	Spirits of Camphor.............	Bartow Drug Co., Bartow......	10.26	103	Illegal—misbranded. No alcohol statement.
382	Spirits Camphor	Tampa Drug Co., Tampa......	8.33	83	Illegal—misbranded. No alcohol statement. Adulterated. Below standard in camphor.
389	Spirits of Camphor.............	W. S. Oppenheimer, Tampa...	6.96	70	Illegal—misbranded. No alcohol statement. Adulterated. Below standard in camphor.
393	Spts. Camphor—86% alcohol.....	Leon Hale, Tampa............	8.64	86	Illegal — adulterated. Below standard in camphor.
400	Spirits Camphor	Economical Drug Store, Tampa	9.92	99	Illegal—misbranded. No alcohol statement.

407	Reliable Brand Spts. Camphor—85% alcohol. McCormick & Co., Baltimore, Md.	J. E. Willis, Archer..........	10.42	104	Legal.
410	Spirits Camphor—75% alcohol. Southern Drug Mfg. Co., Jacksonville, Fla.	N. Schlemmer & Son, Cedar Keys.	4.46	45	Illegal — adulterated. Below standard in camphor.
413	Spts. Camphor—65% alcohol. Groover-Stewart Drug Co., Jacksonville, Fla.	Groover-Stewart Drug Co., Jacksonville.	8.13	81	Illegal — adulterated. Below standard in camphor.
419	Spirits Camphor—75% alcohol...	Southern Drug Mfg. Co., Jacksonville.	4.58	46	Illegal — adulterated. Below standard in camphor.
425	Spirits Camphor—75% alcohol. 37.5 grains camphor to fl. oz.	United Grocery Grocery Co., Jacksonville.	6.81	68	Illegal—misbranded. Incorrect camphor statement. Adulterated. Below stated amount of camphor.
430	Red Cross Spts. Camphor—75% alcohol. Interstate Chemical Co., Baltimore, Md.	F. M. Brumsby, Quincy.......	8.04	80	Illegal — adulterated. Below standard in camphor.
432	Spirits Camphor	The R. Lewis Co., Pensacola..	8.18	82	Illegal—misbranded. No alcohol statement. Adulterated. Below standard in camphor.
439	Spirits of Camphor.............	The Crystal Pharmacy, Pensacola.	10.22	102	Illegal—misbranded. No alcohol statement.
444	Spirits Camphor................	W. A. D'Alemberte, Pensacola.	10.00	100	Illegal—misbranded. No alcohol statement.

SPIRIT OF NITROUS ETHER.
(SWEET SPIRITS OF NITRE)
(SPIRITUS AETHERIS NITROSI)

When freshly prepared Spirit of Nitrous Ether should contain 4% of Ethyl Nitrite and 89.93% of alcohol by volume and be free from aldehyde to comply with the requirements of the U. S. Pharmacopoeia. When Spirit of Nitrous Ether is kept in small, dark colored bottles away from light and heat; it can be kept for months, or even years, without decomposing. The addition of water, or the use of a weaker alcohol in the preparation, causes the ethyl nitrite to decompose on standing. Consequently Spirit of Nitrous Ether that contains less alcohol than the Pharmacopoeial standard of 89.93% invariably show a large deficiency from the standard of 4% of ethyl nitrite. The Pure Food and Drugs Law requires the statement of the percentage of alcohol and ethyl nitrite on the label.

No.	LABEL.	DRUGGIST or RETAILER	ETHYL NITRITE.		Specific Gravity. (at 20° C.)	ALCOHOL Per Cent by Volume.	ALDEHYDE.	REMARKS.
			Per Cent.	Per Cent U. S. P Strength.				
371	Sweet Spts. Nitre—17.5 gr. ethyl nitrite in oz., 92% alcohol.	Hunter's Drug Store, Fort Myers.	2.92	73	0.8170	93.03	Abs.	Illegal—Adulterated. Below standard in ethyl nitrite.
383	Spts. Ether Nitrous, U. S. P. (Swt. Spirits of Nitre.)	Tampa Drug Co., Tampa.	2.82	71	0.8155	93.46	Abs.	Illegal—misbranded. No alcohol and ethyl nitrite statement. Adulterated. Below standard in ethyl nitrite.

390	Sweet Spirits of Nitre.	Court Square Pharmacy, Tampa.	2.00	50	0.8178	92.96	Abs.	Illegal—misbranded. No alcohol and ethyl nitrite statement. Adulterated. Below standard in ethyl nitrite.
394	Sweet Spts. Nitre.	Thomas' Pharmacy, Bradentown.	3.23	81	0.8160	93.26	Abs.	Illegal—misbranded. No alcohol and ethyl nitrite statement. Adulterated. Below standard in ethyl nitrite.
396	Sweet Spirits of Nitre.	Stansfield & Co., Bradentown.	2.91	73	0.8148	93.58	Abs.	Illegal—misbranded. No alcohol and ethyl nitrite statement. Adulterated. Below standard in ethyl nitrite.
405	Sweet Spirits Nitre—4% Ethyl Nitrite, 75% alcohol. The Groover - Stewart Drug Co., Jacksonville, Fla.	Dunnellon Pharmacy, Dunnellon.	1.25	31	0.8840	70.00	Abs.	Illegal—adulterated. Below standard in ethyl nitrite.
414	Sweet Spirits Nitre—4% Ethyl Nitrite, 75% alcohol.	The Groover-Stewart Drug Co., Jacksonville.	0.88	22	0.8850	69.60	Pres.	Illegal—misbranded. No statement of aldehyde. Adulterated. Below standard in ethyl nitrite and contains aldehyde.

OFFICIAL DRUG ANALYSES, 1910, SPIRIT OF NITROUS ETHER—Continued.

No.	LABEL.	DRUGGIST or RETAILER	ETHYL NITRITE.		Specific Gravity (at 20° C.)	ALCOHOL Per Cent by Volume.	ALDEHYDE.	REMARKS.
			Per Cent.	Per Cent U. S. P Strength.				
420	Sweet Spts. Nitre—4% Ethyl Nttrite, 75% alcohol.	Southern Drug Mfg. Co., Jacksonville.	1.50	38	0.8670	76.47	Pres.	Illegal—misbranded. No statement of aldehyde. Adulterated. Below standard in ethyl nitrite and contains aldehyde.
423	Sweet Spirits Nitre—50% alcohol.	United Specialty Co., Jacksonville.	0.03	1	0.9308	49.15	Abs.	Illegal—misbranded. No ethyl nitrite statement. Adulterated. Below standard in ethyl nitrite.
433	Spirits Nitre.	The R. Lewis Co., Pensacola.	1.61	40	0.8155	93.40	Abs.	Illegal—misbranded. No alcohol and ethyl nitrite statement. Adulterated. Below standard in ethyl nitrite.

441	Sweet Spirits of Nitre.	The Crystal Pharmacy, Pensacola.	1.64	41	0.8190	92.42	Abs.	Illegal—misbranded. No ethyl nitrite statement. Adulterated. Below standard in ethyl nitrite.
446	Sweet Spirits Nitre.	W. A. D'Alemberte, Pensacola.	4.10	102	0.8158	93.33	Abs.	Illegal—misbranded. No alcohol and ethyl nitrite statement.
451	Sweet Spirits Nitre.	The Tallahassee Drug Co., Tallahassee.	4.81	120	0.8193	92.40	Abs.	Illegal—misbranded. No alcohol and ethyl nitrite statement. Adulterated. Varies from standard for ethyl nitrite.

OFFICIAL DRUG ANALYSES, 1910.—Continued.

TINCTURE OF IODINE.

(TINCTURA IODI.)

The Pharmacopoeia requires that Tincture of Iodine should contain in each 100 cubic centimeters of the preparation 6.86 grams (in each fluid ounce 31.3 grains) of metallic iodine, and 5 grams (22.8 grains per fluid ounce) of potassium iodide dissolved in 95% alcohol. The latter was made obligatory by the last (eight) revision of the United States Pharmacopoeia, so that the careless or ignorant druggist may not overlook this requirement. The percentage of alcohol is required to be stated on the label by the Pure Food and Drugs Law.

No.	LABEL.	DRUGGIST or RETAILER	IODINE.		POTASSIUM IODIDE.		REMARKS.
			Grams per 100 c. c.	Per Cent U. S. P. Strength.	Grams per 100 c. c.	Per Cent U. S. P. Strength.	
377	Tr. Iodine.	Jake Wey, Arcadia.	7.48	109	4.13	83	Illegal—misbranded. No alcohol statement. Adulterated. Below standard in potassium iodide.
381	Tr. Iodine.	Tampa Drug Co., Tampa.	4.20	61	Absent	0	Illegal—misbranded. No alcohol statement. Adulterated. Below standard in iodine and potassium iodide.
387	Tinct. Iodine—94.9% alcohol.	Hutchinson-Cotter Drug Co., Tampa.	5.53	81	3.46	69	Illegal—adulterated. Below standard in iodine and potassium iodide.

392	Tinct. Iodine.	Taylor's Drug Store, Tampa.	5.89	79	3.01	60	Illegal—misbranded. No alcohol statement. Adulterated. Below standard in iodine and potastium iodide.
398	Tr. Iodine.	Badger Pharmacy, Sarasota.	7.14	104	4.39	88	Illegal—misbranded. No alcohol statement. Adulterated. Below standard in potassium iodide.
399	Tinct. Iodine.	Economical Drug Store, Tampa.	5.95	87	Absent	0	Illegal—misbranded. No alcohol statement. Adulterated. Below standard in iodine and potassium iodide.
403	Tinct. Iodine. Southern Drug Mfg. Co., Jacksonville, Fla.	J. B. Smith, Inverness.	1.50	22	1.42	28	Illegal—misbranded. No alcohol statement. Adulterated. Below standard in iodine and potassium iodide.
409	Tinct. Iodine. Southern Drug Mfg. Co., Jacksonville, Fla.	N. Schlemmer & Son, Cedar Keys.	1.98	29	2.09	42	Illegal—misbranded. No alcohol statement. Adulterated. Below standard in iodine and potassium iodide.
415	Tinct. Iodine.	The Groover-Stewart Drug Co., Jacksonville.	6.79	99	4.35	87	Illegal—misbranded. No alcohol statement. Below standard in potassium iodide.
418	Tinct. Iodine—75% alcohol.	Southern Drug Mfg. Co., Jacksonville.	8.00	125	1.65	38	Illegal—Adulterated. Above standard in iodine and below standard in potassium iodide.
424	Tinct. Iodine—22.5 gr. Iodine to fl. oz., 85% alcohol.	United Specialty Co., Jacksonville.	3.79	55	0.75	15	Illegal — adulterated. Below stated amount of iodine and below standard in potassium iodide.

OFFICIAL DRUG ANALYSES, 1910—TINCTURE OF IODINE.—Continued.

No.	LABEL.	DRUGGIST or RETAILER	IODINE.		POTASSIUM IODIDE.		REMARKS.
			Grams per 100 c. c.	Per Cent U. S P. Strength.	Grams per 100 c. c.	Per Cent U. S P. Strength.	
435	Tincture Iodine.	The R. Lewis Co., Pensacola.	5.80	85	0.68	14	Illegal—misbranded. No alcohol statement. Adulterated. Below standard in iodine and potassium iodide.
437	Tincture Iodine.	The Crystal Pharmacy, Pensacola.	6.05	88	3.87	78	Illegal—misbranded. No alcohol statement. Adulterated. Below standard in iodine and potassium iodide.
445	Tincture Iodine.	W. A. D'Alemberte, Pensacola.	6.29	92	4.75	95	Illegal—misbranded. No alcohol statement.

OFFICIAL DRUG ANALYSES, 1910.—Continued.

No.	LABEL.	DRUGGIST or RETAILER	IODINE.		POTASSIUM IODINE.		REMARKS.
			Grams per 100 c. c.	Per Cent U. S. P. Strength.	Grams per 100 c. c.	Per Cent U. S. P. Strength.	
454	Tinct. Iodine—94.9% alcohol.	F. P. May, Quincy.......	6.34	92	4.75	94	Legal.
455	Tinct. Iodine.........	The Crystal Pharmacy, Pensacola.	6.04	88	4.54	91	Illegal—misbranded. No alcohol statement. Adulterated. Below standard in iodine.
456	Tinct. Iodine — 96% alcohol.	W. A. D'Alemberte, Pensacola.	7.25	106	4.85	97	Legal.
457	Tinct. Iodine—94.9% alcohol.	Hannah's Pharmacy, Pensacola.	6.62	97	4.62	92	Legal.
460	Tinct. Iodine — 90% alcohol.	Bonifay Drug Co., Bonifay.	10.25	150	5.94	119	Illegal—adulterated. Above standard in iodine and potassium iodide.
461	Tr. Iodine—94% alcohol.	The City Drug Store, Chipley.	6.91	101	4.58	92	Legal.

OFFICIAL DRUG ANALYSES, 1910—Continued.

No.	LABEL.	DRUGGIST or RETAILER	IODINE.		POTASSIUM IODIDE.		REMARKS.
			Grams per 100 c. c.	Per Cent U. S. P. Strength.	Grams per 100 c. c.	Per Cent U. S. P. Strength.	
462	Tinct. Iodine—94.9% alcohol.	City Drug Store, Cottondale.	8.02	130	4.74	95	Illegal—adulterated. Above standard in iodine.
463	Tr. Iodine—94% alcohol. National Drug Co., Philadelphia.	City Drug Store, Blountstown.	6.08	89	1.65	33	Illegal—adulterated. Below standard in iodine and potassium iodide.
464	Tr. Iodine—94% alcohol.	Crystal Pharmacy, Blountstown.	6.70	98	4.90	98	Legal.
465	Tr. Iodine—94% alcohol.	Smith's Drug Store, Marianna.	5.88	86	2.01	40	Illegal—adulterated. Below standard in iodine and potassium iodide.
466	Tincture of Iodine—90% alcohol.	Dr. Theop. West, Marianna.	7.06	103	5.22	104	Legal.
467	Tr. Iodine—94.9% alcohol.	Wm. W. Pooser, Apalachicola.	7.21	105	4.82	96	Legal.

468	Tinct. Iodine.........	Wm. A. W. Simmons, Monticello.	4.34	71	Absent	0	Illegal—misbranded. No alcohol statement. Adulterated. Below standard in iodine and potassium iodide.
469	Tinct. Iodine — 94% alcohol.	B. W. Johnson & Son, Monticello.	8.01	117	6.35	137	Illegal—adulterated. Above standard in iodine and potassium iodide.
470	Tinct. Iodine — 96% alcohol.	Madison Drug Co., Madison.	4.05	59	Absent	0	Illegal—adulterated. Below standard in iodine and potassium iodide.
471	Tr. Iodine—94.9% alcohol.	Suwannee Drug Co., Live Oak.	6.65	97	2.35	47	Illegal—adulterated. Below standard in potassium iodide.
472	Tr. Iodine—94.9% alcohol.	Barclay & Groover, Live Oak.	6.87	100	0.84	17	Illegal—adulterated. Below standard in potassium iodide.
473	Tinct. Iodine — 94% alcohol.	Young's Drug Store, Lake City.	5.75	84	Absent	0	Illegal—adulterated. Below standard in iodine and potassium iodide.
474	Tinct. Iodine—94.9% alcohol.	M. B. Church, Daytona...	5.34	78	3.05	61	Illegal—adulterated. Below standard in iodine and potassium iodide.
476	Tinct. Iodine—94.9% alcohol.	St. Lucie Drug Co., Fort Pierce.	6.00	88	4.71	94	Illegal—adulterated. Below standard in iodine.
478	Tinct. Iodine—94.9% alcohol.	West Palm Beach Drug Co., West Palm Beach.	8.06	117	4.51	90	Illegal—adulterated. Above standard in iodine and below standard in potassium iodide.
479	Tr. Iodine—94.9% alcohol.	Merrill's Drug Store, West Palm Beach.	6.90	101	4.92	98	Legal.

OFFICIAL DRUG ANALYSES, 1910—Continued.

No.	LABEL.	DRUGGIST or RETAILER	IODINE.		POTASSIUM IODIDE.		REMARKS.
			Grams per 100 c. c.	Per Cent U. S. P. Strength.	Grams per 100 c. c.	Per Cent U. S. P. Strength.	
480	Tincture of Iodine—94% alcohol.	Broadwell & Moore, West Palm Beach.	5.61	82	Absent	0	Illegal—adulterated. Below standard in iodine and potassium iodide.
481	Tinct. Iodine — 94% alcohol.	DeSoto Drug Co., Punta Gorda.	6.38	93	Absent	0	Illegal—adulterated. Below standard in potassium iodide.
482	Tinct. Iodine—94.9% alcohol.	Cotter's Drug Store, Tampa.	7.09	103	Absent	0	Illegal—adulterated. Below standard in potassium iodide.
483	Tincture of Iodine—94% alcohol.	Leon Hale, Tampa.	6.16	90	4.17	83	Illegal—Adulterated. Below standard in iodine and potassium iodide.
484	Tinct. Iodine—94.9% alcohol.	Taylor's Drug Store, Tampa.	7.60	111	5.28	106	Illegal—adulterated. Above standard in iodine.
486	Tinct. Iodine—94.9% alcohol.	B. P. Matheson, Fort Myers.	6.91	101	1.16	23	Illegal—adulterated. Below standard in potassium iodide.

487	Tr. Iodine—94% alcohol.	Jake Wey, Arcadia.	7.58	116	5.95	119	Illegal—adulterated. Above standard in iodine and potassium iodide.
488	Tinct. Iodine — 94.9% alcohol.	The Wilson Drug Co., Bartow.	6.50	95	3.41	68	Illegal—adulterated. Below standard in potassium iodide.
489	Tinct. Iodine—94.9% alcohol.	The Corner Drug Store, Bartow.	6.35	93	5.22	104	Legal.
490	Tinct. Iodine—94.9% alcohol.	Henley & Henley, Lakeland.	3.57	52	Absent	0	Illegal—adulterated. Below standard in iodine and potassium iodide.
491	Tinct. Iodine—94.9% alcohol.	Central Pharmacy, Plant City.	8.76	129	Absent	0	Illegal—adulterated. Above standard in iodine and below standard in potassium iodide.
492	Tinct. Iodine—94.9% alcohol.	Plant City Pharmacy, Plant City.	4.05	59	1.85	37	Illegal—adulterated. Below standard in iodine and potassium iodide.
493	Tinct. Iodine—94.9% alcohol.	Bradentown Drug Co., Bradentown.	7.51	110	5.73	115	Illegal—adulterated. Above standard in odine and potassium iodide.
494	Tinct. Iodine—94.9% alcohol.	Red Cross Pharmacy, St. Petersburg.	6.86	100	4.88	98	Legal.
495	Tr. Iodine—90% alcohol.	Dunnellon Pharmacy, Dunnellon.	5.61	82	3.25	65	Illegal—adulterated. Below standard in iodine and potassium iodide.
496	Tinct. Iodine—94.9% alcohol.	J. W. McCollum & Co., Gainesville.	6.98	102	5.70	114	Illegal—adulterated. Above standard in potassium iodide.

OFFICIAL DRUG ANALYSES, 1910.—Continued.

No.	LABEL.	DRUGGIST or RETAILER	IODIDE.		POTASSIUM IODINE.		REMARKS.
			Grams per 100 c. c.	Per Cent U. S. P. Strength.	Grams per 100 c. c.	Per Cent U. S. P. Strength.	
497	Tinct. Iodine—94.9% alcohol.	A. J. Vidal, M. D., Gainesville.	7.98	116	4.84	97	Illegal—adulterated. Above standard in iodine.
499	Tinct. Iodine—94.9% alcohol.	The Heffley Drug Co., Jacksonvile.	6.19	90	1.23	25	Illegal—adulterated. Below standard in iodine and potassium iodide.
500	Tinct. Iodine—94.9 % alcohol.	Seminole Pharmacy, Jacksonville.	4.98	73	4.03	81	Illegal—adulterated. Below standard in iodine and potassium iodide.

MISCELLANEOUS ANALYSES AND EXAMINATIONS, 1910.

WATER SAMPLES.

M. 1351.—Water from H. F. Quackenboss, Enterprise.
Artesian water from 95-foot well at Enterprise Public School.
Total dissolved solids (parts per 1,000,000) 250

M. 1352—Water from W. H. Towles, Fort Myers.
Pond water.
Total dissolved solids (parts per 1,000,000) 2,153

M. 1362—Water from Richard G. Johnson, Tallahassee.
Well water.
Total dissolved solids (parts per 1,000,000) 135

M. 1366.—Water from C. C. Hamblin, Tampa.
Spring water.
Total dissolved solids (parts per 1,000,000) 243

M. 1368.—Water from M. O. Feagin, Eagle Lake.
Total dissolved solids (parts per 1,000,000) 180

M. 1369.—Water from George A. Main, Daytona.
Artesian water from 250-foot city well of Daytona.
Total dissolved solids (parts per 1,000,000) 1,003

M. 1370.—Water from M. Jeffries, Cora.

Total dissolved solids (parts per 1,000,000) 172

M. 1383.—Water from Stearns & Culver Lumber Company, Bagdad.

Total dissolved solids (parts per 1,000,000) 35
Volatile solids (parts per 1,000,000).... 32

Non-volatile solids (parts per 1,000,000) 3

M. 1384.—Water from H. A. Hampton, Marianna. "No. 1."

Total dissolved solids (parts per 1,000,000) 154
Water also contains hydrogen sulfide.

M. 1385.—Water from H. A. Hampton, Marianna. "No. 2."

Total dissolved solids (parts per 1,000,000) 413

M. 1386.—Water from T. J. Griffin, Hawthorne.

Water from 32-foot pump.
Total dissolved solids (parts per 1,000,000) 86

M. 1387.—Water from Bunnell Development Company, Bunnell. "No. 1."

Total dissolved solids (parts per 1,000,000) 1,528
Water also contains hydrogen sulfide.

M. 1388.—Water from Bunnell Development Company, Bunnell. "No. 2."

Total dissolved solids (parts per 1,000,000) 100

M. 1389.—Water from G. P. Walker, Belleair.
Artesian water from 189-foot well.
Total dissolved solids (parts per 1,000,000) 205

M. 1390.—Water from T. J. Sheridan, Clearwater.
Water from Wallace Spring.
Total dissolved solids (parts per 1,000,000) 69

M. 1397.—Water from T. J. Sheridan, Clearwater.
Water from Frazer Well.
Total dissolved solids (parts per 1,000,000) 394
Water also contains hydrogen sulfide.

M. 1398.—Water from T. J. Sheridan, Clearwater.
Water from Engman Spring.
Total dissolved solids (parts per 1,000,000) 483

M. 1399.—Water from T. J. Sheridan, Clearwater.
Water from Eldridge Well.
Total dissolved solids (parts per 1,000,000) 270

M. 1400.—Water from well of Wilson Cypress Company, seven miles south of Palatka, for State Geological Survey.

(Milligrams per Liter.)

Silica (SiO_2)	13
Chlorine (Cl)	234
Sulfate radicle (SO_4)	49
Phosphate radicle (PO_4)	0
Carbonate radicle (CO_3)	0
Bicarbonate radicle (HCO_3)	156
Sodium and Potassium ($Na+K$)	94
Magnesium (Mg)	33

Calcium (Ca)	64
Iron and Aluminum (Fe+Al)	1
Loss on ignition	215
Total dissolved solids	855

M. 1401.—Water from well of N. B. Ivey, Green Cove Springs, for State Geological Survey.

(Milligrams per Liter.)

Silica (SiO_2)	7
Chlorine (Cl)	9
Sulfate radicle (SO_4)	7
Phosphate radicle (PO_4)	0
Carbonate radicle (CO_3)	0
Bicarbonate radicle (HCO_3)	107
Sodium and Potassium (Na+K)	14
Magnesium (Mg)	4
Calcium (Ca)	16
Iron and Aluminum (Fe+Al)	1
Loss on ignition	67
Total dissolved solids	155

M. 1402.—Water from Fleming Well, Hibernia, for State Geological Survey.

(Milligrams per Liter.)

Silica (SiO_2)	9
Chlorine (Cl)	7
Sulfate radicle (SO_4)	5
Phosphate radicle (PO_4)	0
Carbonate radicle (CO_3)	0
Bicarbonate radicle (HCO_3)	98
Sodium and Potassium (Na+K)	23
Magnesium (Mg)	5
Calcium (Ca)	14
Iron and Aluminum (Fe+Al)	1
Loss on ignition	45
Total dissolved solids	122

M. 1403.—Water from well of Nassau Truck and Farm Company, three miles south of Fernandina, for State Geological Survey.

(Milligrams per Liter.)

Silica (SiO_2)	24
Chlorine (Cl)	30
Sulfate radicle (SO_4)	133
Phosphate radicle (PO_4)	0
Carbonate radicle (CO_3)	0
Bicarbonate radicle (HCO_3)	195
Sodium and Potassium (Na+K)	30
Magnesium (Mg)	13
Calcium (Ca)	55
Iron and Aluminum (Fe+Al)	1
Loss on ignition	130
Total dissolved solids	500

M. 1404.—Water from town well, Callahan, for State Geological Survey.

(Milligrams per Liter.)

Silica (SiO_2)	23
Chlorine (Cl)	121
Sulfate radicle (SO_4)	129
Phosphate radicle (PO_4)	4
Carbonate radicle (CO_3)	0
Bicarbonate radicle (HCO_3)	276
Sodium and Potassium (Na+K)	111
Magnesium Mg)	18
Calcium (Ca)	71
Iron and Aluminum (Fe+Al)	1
Loss on ignition	170
Total dissolved solids	750

M. 1405.—Water from well of S. Henry, City Point, for State Geological Survey.

(Milligrams per Liter.)

Silica (SiO_2)	17
Chlorine (Cl)	2,248
Sulfate radicle (So_4)	207
Phosphate radicle (PO_4)	8
Carbonate radicle (CO_3)	0
Bicarbonate radicle (HCO_3)	168
Sodium and Potassium ($Na+K$)	1,174
Magnesium (Mg)	116
Calcium (Ca)	440
Iron and Aluminum ($Fe+Al$)	1
Loss on ignition	960
Total dissolved solids	5,053

M. 1406.—Water from well of Titusville Ice Company, Titusville, for State Geological Survey.

(Milligrams per Liter.)

Silica (SiO_2)	8
Chlorine (Cl)	11,879
Sulfate radicle (SO_4)	547
Phosphate radicle (PO_4)	0
Carbonate radicle (CO_3)	0
Bicarbonate radicle (HCO_3)	177
Sodium and Potassium ($Na+K$)	6,542
Magnesium (Mg)	669
Calcium (Ca)	637
Iron and Aluminum ($Fe+Al$)	3
Loss on ignition	1,380
Total dissolved solids	23,060

M. 1407.—Water from Ollif. Well, Sharpes, for State Geological Survey.

(Milligrams per Liter.)

Silica (SiO_2)	16
Chlorine (Cl)	3,120
Sulfate radicle (SO_4)	302
Phosphate radicle (PO_4)	0
Carbonate radicle (CO_3)	0
Bicarbonate radicle (HCO_3)	165
Sodium and Potassium (Na+K)	1,634
Magnesium (Mg)	286
Calcium (Ca)	262
Iron and Aluminum (Fe+Al)	4
Loss on ignition	974
Total dissolved solids	6,520

M. 1408.—Water from well of H. Bradford, Cocoa, for State Geological Survey.

(Milligrams per Liter.)

Silica (SiO_2)	12
Chlorine (Cl)	1,082
Sulfate radicle (SO_4)	201
Phosphate radicle (PO_4)	0
Carbonate radicle (CO_3)	0
Bicarbonate radicle (HCO_3)	152
Sodium and Potassium (Na+K)	536
Magnesium (Mg)	77
Calcium (Ca)	167
Iron and Aluminum (Fe+Al)	4
Loss on ignition	470
Total dissolved solids	2,546

M. 1409.—Water from well of L. D. Hancock, Lotus, for State Geological Survey.

(Milligrams per Liter.)

Silica (SiO_2)	12
Chlorine (Cl)	642
Sulfate radicle (SO_4)	178
Phosphate radicle (PO_4)	0
Carbonate radicle (CO_3)	0
Bicarbonate radicle (HCO_3)	149
Sodium and Potassium (Na+K)	309
Magnesium (Mg)	63
Calcium (Ca)	132
Iron and Aluminum (Fe+Al)	3
Loss on ignition	370
Total dissolved solids	1,710

M. 1410.—Water from well of H. P. Bowden, one mile west of Melbourne, for State Geological Survey.

(Milligrams per Liter.)

Silica (SiO_2)	18
Chlorine (Cl)	573
Sulfate radicle (SO_4)	150
Phosphate radicle (PO_4)	0
Carbonate radicle (CO_3)	0
Bicarbonate radicle (HCO_3)	156
Sodium and Potassium (Na+K)	269
Magnesium (Mg)	68
Calcium (Ca)	123
Iron and Aluminum (Fe+Al)	8
Loss on ignition	375
Total dissolved solids	1,555

M. 1411.—Water from 8-inch city well, Tallahassee, for State Geological Survey.

(Milligrams per Liter.)

Silica (SiO_2)	7
Chlorine (Cl)	7
Sulfate radicle (SO_4)	2
Phosphate radicle (PO_4)	0
Carbonate radicle (CO_3)	0
Bicarbonate radicle (HCO_3)	143
Sodium and Potassium (Na+K)	31
Magnesium (Mg)	2
Calcium (Ca)	41
Iron and Aluminum (Fe+Al)	8
Loss on ignition	35
Total dissolved solids	165

M. 1418.—Water from 1212-foot well of C. I. Cragin, Palm Beach, for State Geological Survey.

(Milligrams per Liter.)

Silica (SiO_2)	17
Chlorine (Cl)	1,337
Sulfate radicle (SO_4)	431
Phosphate radicle (PO_4)	3
Carbonate radicle (CO_3)	0
Bicarbonate radicle (HCO_3)	195
Sodium and Potassium (Na+K)	835
Magnesium (Mg)	112
Calcium (Ca)	102
Iron and Aluminum (Fe+Al)	2
Loss on ignition	357
Total dissolved solids	3,000

M. 1419.—Water from 12-foot rock well of C. I. Cragin, Palm Beach, for State Geological Survey.

(Parts per 1,000,000.)

Chlorine (Cl)	543
Carbonate radicle (CO_3)	0
Bicarbonate radicle (HCO_3)	329
Loss on ignition	223
Total dissolved solids	1,630

M. 1420.—Saw Grass water from C. I. Cragin, Palm Beach, for State Geological Survey.

(Parts per 1,000,000.)

Chlorine (Cl)	712
Carbonate radicle (CO_3)	0
Bicarbonate radicle (HCO_3)	476
Loss on ignition	343
Total dissolved solids	1,890

M. 1421.—Water from J. L. Bonnell, Jacksonville.

(Parts per 1,000,000.)

Chlorine (Cl)	18
Carbonate radicle (CO_3)	0
Bicarbonate radicle (HCO_3)	299
Loss on ignition	66
Total dissolved solids	404

M. 1422.—Water from Dr. R. F. Altree, Port Tampa. "No. 1."

(Parts per 1,000,000.)

Chlorine (Cl)	209
Carbonate radicle (CO_3)	0
Bicarbonate radicle (HCO_3)	375
Loss on ignition	590
Total dissolved solids	830

M. 1423.—Water from Dr. R. F. Altree, Port Tampa. "No. 2."

(Parts per 1,000,000.)

Chlorine (Cl)	126
Carbonate radicle (CO_3)	0
Bicarbonate radicle (HCO_3)	351
Loss on ignition	183
Total dissolved solids	1,180

M. 1424—Water from Dr. R. F. Altree, Port Tampa. "No. 3."

(Parts per 1,000,000.)

Chlorine (Cl)	431
Carbonate radicle (CO_3)	0
Bicarbonate radicle (HCO_3)	366
Loss on ignition	210
Total dissolved solids	1,210

M. 1425.—Water from Dr. R. F. Altree, Port Tampa. "No. 4."

(Parts per 1,000,000.)

Chlorine (Cl)	239
Carbonate radicle (CO_3)	0
Bicarbonate radicle (HCO_3)	359
Loss on ignition	175
Total dissolved solids	885

M. 1426.—Water from Dr. R. F. Altree, Port Tampa. "No. 5."

(Parts per 1,000,000.)

Chlorine (Cl)	89
Carbonate radicle (CO_3)	0
Bicarbonate radicle (HCO_3)	378
Loss on ignition	118
Total dissolved solids	580

M. 1427.—Water from Dr. R. F. Altree, Port Tampa.
"No. 6."
Artesian water from 150-foot flowing well.
(Parts per 1,000,000.)

Chlorine (Cl)	284
Carbonate radicle (CO_3)	0
Bicarbonate radicle (HCO_3)	329
Loss on ignition	127
Total dissolved solids	840

M. 1436.—Water from P. S. McClung, Florala, Ala.
Artesian water from 357-foot well.
(Parts per 1,000,000.)

Chlorine (Cl)	4
Carbonate radicle (CO_3)	0
Bicarbonate radicle (HCO_3)	159
Loss on ignition	16
Total dissolved solids	153

M. 1437.—Water from T. R. Hodges, Tallahassee.
Water from Newport Spring, Wakulla County.
(Parts per 1,000,000.)

Chlorine (Cl)	14
Carbonate radicle (CO_3)	0
Bicarbonate radicle (HCO_3)	217
Loss on ignition	46
Total dissolved solids	293

M. 1438.—Water from Henry S. Pennock, Jupiter.
"No. 1."

Chlorine (parts per 1,000,000)	26
Chlorine calculated to Sodium Chloride (parts per 1,000,000)	43

M. 1439.—Water from Henry S. Pennock, Jupiter. "No. 2."

Chlorine (parts per 1,000,000)	17
Chlorine calculated to Sodium Chloride (parts per 1,000,000)	28

M. 1440.—Water from Henry S. Pennock, Jupiter. "No. 3."

Chlorine (parts per 1,000,000)	7
Chlorine calculated to Sodium Chloride (parts per 1,000,000)	12

M. 1441.—Water from Henry S. Pennock, Jupiter. "No. 4."

Chlorine (parts per 1,000,000)	42
Chlorine calculated to Sodium Chloride (parts per 1,000,000)	70

M. 1454.—Water from Warnell Lumber and Veneer Company, Plant City.

Water from 267-foot well.

(Parts per 1,000,000.)

Chlorine (Cl)	7
Carbonate radicle (CO_3)	0
Bicarbonate radicle (HCO_3)	137
Loss on ignition	35
Total dissolved solids	190

M. 1455.—Water from J. W. Cobb, Perry.

Artesian water from 1199-foot flowing well.

(Parts per 1,000,000.)

Chlorine (Cl)	596
Carbonate radicle (CO_3)	0
Bicarbonate radicle (HCO_3)	156
Loss on ignition	770
Total dissolved solids	5,650

M. 1456.—Water from S. O. Johnson, Key West, for State Geological Survey.

Chlorine (parts per 1,000,000)	1,018
Chlorine calculated to Sodium Chloride (parts per 1,000,000)	1,655

M. 1461.—Water from Zolfo Mercantile Company, Zolfo. Spring water.

(Parts per 1,000,000.)

Chlorine (Cl)	18
Carbonate radicle (CO_3)	0
Bicarbonate radicle (HCO_3)	183
Loss on ignition	55
Total dissolved solids	500

M. 1462.—Water from C. W. Sinclair, Madison. Water from 82-foot well at Hopewell, Madison County.

(Parts per 1,000,000.)

Chlorine (Cl)	14
Carbonate radicle (CO_3)	0
Bicarbonate radicle (HCO_3)	229
Loss on ignition	80
Total dissolved solids	270

M. 1463.—Water from J. R. Jennings, Jennings. Water from town supply from 280-foot well.

(Parts per 1,000,000.)

Chlorine (Cl)	7
Carbonate radicle (CO_3)	0
Bicarbonate radicle (HCO_3)	162
Loss on ignition	35
Total dissolved solids	180

M. 1468.—Water from near top of well of S. O. Johnson, Key West, for State Geological Survey.

Chlorine (parts per 1,000,000)	1,418
Chlorine calculated to Sodium Chloride (parts per 1,000,000)	2,340

M. 1469.—Water from near bottom of well of S. O. Johnson, Key West, for State Geological Survey.

Chlorine (parts per 1,000,000)	823
Chlorine calculated to Sodium Chloride (parts per 1,000,000)	1,358

M. 1470.—Water from C. W. Sinclair, Madison.

Water from 82-foot well at Hopewell, Madison County.

	(Parts per 1,000,000.)
Chlorine (Cl)	10
Carbonate radicle (CO_3)	0
Bicarbonate radicle (HCO_3)	220
Loss on ignition	75
Total dissolved solids	256

M. 1474.—Water from H. B. Gaskin, Blountstown.

Well water.

	(Parts per 1,000,000.)
Chlorine (Cl)	7
Carbonate radicle (CO_3)	0
Bicarbonate radicle (HCO_3)	183
Loss on ignition	44
Total dissolved solids	200

M. 1477.—Water from William Edwards, Zellwood.

	(Parts per 1,000,000.)
Chlorine (Cl)	7
Carbonate radicle (CO_3)	0
Bicarbonate radicle (HCO_3)	7
Loss on ignition	40
Total dissolved solids	75

M. 1480.—Water from Ernest H. Every, Sebastian.
Artesian water from 370-foot flowing well.
(Parts per 1,000,000.)

Chlorine (Cl)	257
Carbonate radicle (CO_3)	0
Bicarbonate radicle (HCO_3)	177
Loss on ignition	245
Total dissolved solids	905

M. 1481.—Water from George M. Robbins, Titusville.
Water from city well of Titusville.
(Parts per 1,000,000.)

Chlorine (Cl)	57
Carbonate radicle (CO_3)	0
Bicarbonate radicle (HCO_3)	360
Loss on ignition	152
Total dissolved solids	448

M. 1485.—Water from Nathaniel Brewer, Jr., Newport.
Water from Newport Spring, Wakulla County.
(Parts per 1,000,000.)

Chlorine (Cl)	18
Carbonate radicle (CO_3)	0
Bicarbonate radicle (HCO_3)	216
Loss on ignition	70
Total dissolved solids	342

M. 1486.—Water from H. A. Engman, Clearwater.
Water from 263-foot well.
(Parts per 1,000,000.)

Chlorine (Cl)	44
Carbonate radicle (CO_3)	0
Bicarbonate radicle (HCO_3)	186
Loss on ignition	50
Total dissolved solids	275

M. 1490.—Water from H. Gunter, Tallahassee.
Distilled water.

Total dissolved solids (parts per 1,000,000)	30

M. 1491.—Water from A. M. Henry, Tallahassee.
Distilled water.

Total dissolved solids (parts per 1,000,000)	10

M. 1496.—Water from S. S. Alderman, Wewahitchka.

(Parts per 1,000,000.)

Chlorine (Cl)	7
Carbonate radicle (CO_3)	0
Bicarbonate radicle (HCO_3)	117
Loss on ignition	55
Total dissolved solids	130

M. 1502.—Water from W. N. Strickland, Ben Haden.

(Parts per 1,000,000.)

Chlorine (Cl)	14
Carbonate radicle (CO_3)	0
Bicarbonate radicle (HCO_3)	175
Loss on ignition	40
Total dissolved solids	200

M. 1510.—Water from A. D. Carmichael, Chipley.
Water from city well of Chipley.

(Parts per 1,000,000.)

Chlorine (Cl)	4
Carbonate radicle (CO_3)	0
Bicarbonate radicle (HCO_3)	122
Loss on ignition	40
Total dissolved solids	136

M. 1511.—Water from E. M. Pridgeon, Wewahitchka.
Spring water.

(Parts per 1,000,000.)

Chlorine (Cl)	9
Carbonate radicle (CO_3)	0
Bicarbonate radicle (HCO_3)	92
Loss on ignition	20
Total dissolved solids	105

M. 1512.—Water from Miss Clem Hampton, Tallahassee
Water from well at Perry.

(Parts per 1,000,000.)

Chlorine (Cl)	14
Carbonate radicle (CO_3)	0
Bicarbonate radicle (HCO_3)	259
Loss on ignition	52
Total dissolved solids	257

M. 1513.—Water from Miss Clem Hampton, Tallahassee
Water from Perry Creek at Perry.

(Parts per 1,000,000.)

Chlorine (Cl)	7
Carbonate radicle (CO_3)	0
Bicarbonate radicle (HCO_3)	149
Loss on ignition	63
Total dissolved solids	157

M. 1516.—Water from W. A. Whitcomb, Bloomington, Ill.
Water from flowing well near Geneva, Orange County.

(Parts per 1,000,000.)

Chlorine (Cl)	3,617
Carbonate radicle (CO_3)	0
Bicarbonate radicle (HCO_3)	229
Loss on ignition	2,135
Total dissolved solids	8,611

MISCELLANEOUS SAMPLES.

M. 1346.—Iron Pyrites (Iron Sulfide), from J. W. Kimbrough, Webster.

M. 1347.—Iron Pyrites (Iron Sulfide), from J. A. Eaddy, Bushnell.

M. 1348.—Limstone (Calcium Carbonate), from L. A. Minx & Co., Kissimmee.
The sample contains no phosphates.

M. 1349.—Limestone (Calcium Carbonate), from L. A. Minx & Co., Kissimmee.
This sample contains no phosphates.

M. 1350.—Impure Fullers Earth, from J. W. Register, Jasper.

M. 1353.—Soil from W. L. VanDuzor, Kissimmee.

M. 1354.—Rock specimens from A. Smith, Webster.
Limestone (Calcium Carbonate), "No. 1."
Clay, "No. 2."

M. 1355.—Iron Pyrites (Iron Sulfide), from Dinkins & Branch, Bushnell.

M. 1356.—Muck Soil, from George B. Perkins, Tallahassee.
Ammonia on air dry sample (%)..... 0.88

M. 1357.—Muck, from R. S. Cheatham, Bartow.
Ammonia on air dry sample (%)..... 0.06

M. 1358.—Blue Clay, from Lake Jackson Tobacco Company, Tallahassee. "No. 1."

M. 1359.—Impure Fullers Earth, from Lake Jackson Tobacco Company, Tallahassee. "No. 2."

M. 1360.—Muck, from F. H. Chesbro, Boca Ratone.
Moisture in sample as received (%)... 69.57
Ammonia in air dry sample (%)..... 2.55

M. 1361.—Muck, from R. Griffin Johnson, Tallahassee.
Sample taken from Lake Munson, Leon County.
Ammonia in air dry sample (%)..... 2.31

M. 1363.—Treated Sawdust, from George A. Carroll, Jacksonville.

M. 1364.—Clay, containing Limonite Pebbles, from J. S. Holland, Midway.

M. 1365.—Urine, from Dr. E. E. Philbrick, Tallahassee.
Specific gravity at 20°C 1.0252

M. 1367.—Phosphatic Limestone, from Dinkins & Branch, Bushnell.

M. 1371.—Limestone (Calcium Carbonate), from J. W. Carraway, LaBelle.

M. 1372.—Impure Limonite (Bog Iron Ore), from H. L. Hopkins, Holland.

M. 1373.—Impure Gypsum (Calcium Sulfate), from E. Walker, Inverness.

M. 1374.—Pulverized Limestone (Calcium Carbonate), from G. L. Campbell, Carrabelle.

M. 1375.—Limestone Pebbles (Calcium Carbonate), from Z. C. West, Orange Dale.

M. 1376.—A black emulsion from Dr. J. C. L'Engle, Jacksonville.

Water, containing a sediment of iron oxide colored with carbonaceous matter.

M. 1377.—Iron Pyrites (Iron Sulfide), from A. J. Johnson, Reddick.

M. 1378.—Blue Clay, from Julius Diamond, Tallahassee.

M. 1379.—Turnbull Hammock Soil, from Walter Walden, Miami.

Moisture (%)	36.12
Combustible matter (%)	13.87
Ash (%)	52.12
Ammonia (%)	0.43

M. 1380.—Urine, from Dr. E. E. Philbrick, Tallahassee.

Specific gravity at 20°C	0.0141

M. 1381.—Phosphate sample from Bartow, for State Geological Survey.

Phosphoric Acid (%)	15.56
Equivalent to Bone Phosphate of Lime (per cent.)	33.97

M. 1382.—Ground Phosphate Rock, from C. C. Liddon, Marianna.

Phosphoric Acid (%)	28.75
Equivalent to Bone Phosphate of Lime (per cent.)	62.76

M. 1391.—Hard Rock Phosphate Pebbles in Sandy Matrix, from Dutton, for State Geological Survey.

Phosphoric Acid (%)	5.38
Equivalent to Bone Phosphate of Lime (per cent.)	11.75

M. 1392.—Limestone (Calcium Carbonate), from W. W. Cleveland, Jacksonville.

M. 1393.—Muck, from Peter Pierson, Pierson.

Moisture (%)	53.35
Ammonia (%)	0.80
Ash (%)	13.88

M. 1394.—Iron Pyrites (Iron Sulfide), from C. R. Jenkins, Sneads.

M. 1395.—Silca Concretion, from S. E. Key, Quincy.

M. 1396.—Iron Pyrites (Iron Sulfide), from S. I. Revel, Bristol.

M. 1412.—Soft Limestone (Calcium Carbonate), from P. A. McMillan, Eau Gallie.

M. 1413.—Impure Fullers Earth, from Wayne Thomas, Bartow.

M. 1414.—Fine Sand, from Mrs. J. A. Caruthers, Crescent Beach.

M. 1415.—Soft Limestone (Calcium Carbonate), from George F. Gaines, Victoria.

M. 1416.—Kaolin, from John F. Carleton, Sparr.

M. 1417.—Powder, used for tempering steel, from H. L. Wise, Jasper.

A mixture of Sodium Chloride, Sodium Bicarbonate and Sodium Carbonate.

M. 1428.—Muck, from J. D. Robertson, Ocala. "No. 1."

Moisture in sample as received (%)	78.51
Ammonia on moisture free basis (%)	2.97
Ash on moisture free basis (%)	8.32

M. 1429.—Muck, from J. D. Robertson, Ocala. "No. 2."

Moisture in sample as received (%)	62.40
Ammonia on moisture free basis (%)	3.25
Ash on moisture free basis (%)	7.97

M. 1430.—Muck, from J. Buttenbach & Co., Holder.

Moisture in sample as received (%)	77.25
Ammonia on moisture free basis (%)	3.08
Ash on moisture free basis (%)	8.10

M. 1431.—Impure Limestone (Calcium Carbonate), from T. K. Godbey, Waldo.

M. 1432.—Muck, from Gulf Fertilizer Company, Tampa.

Ash (%)	18.68
Insoluble matter (%)	9.35
Ammonia (%)	2.78

M. 1433.—Soft Phosphate, from J. Schnarr, Orlando. "N. 1."

Phosphoric Acid (%)	3.61

M. 1434.—Soft Phosphate, from J. Schnarr, Orlando. "No. 2."

Phosphoric Acid (%)	3.67

M. 1435.—Sandy Clay, from H. B. Wordehoff, Plant City.

M. 1442.—Hardpan from Beach near Apalachicola, for State Geological Survey.

(Analysis on Air Dry Basis.)

Moisture (%)	1.10
Combustible matter (%)	3.29
Silca (%)	94.57
Undetermined (%)	1.04

M. 1443.—Algae, from Sulfur Water, for State Geological Survey.

Sample contains sulfur and sulfates.

M. 1444.—A mineral powder for State Geological Survey.

A mixture of Calcium Sulfate, Calcium Carbonate and Silica.

M. 1445.—Muck, from Ernest H. Every, Sebastian.

Phosphoric Acid (%)	0.18
Ammonia (%)	4.12
Potash (K_2O) (%)	0.065
Ash (%)	4.14

M. 1446.—Marl (Calcium Carbonate), from New South Farm Company, Ocala.

M. 1447.—Soft Limestone (Calcium Carbonate), from J. T. Birwick, Palmetto.

M. 1448.—Fresh Muck, from J. L. Nesbit, Savannah, Ga.

Moisture in sample as received (%)	94.96
Ammonia on moisture free basis (%)	2.03

M. 1449.—Soil, from R. Kilpatrick, Miami.

Moisture in sample as received (%)	58.29
Calcium Carbonate on moisture free basis (%)	71.43
Ash on moisture free basis (%)	46.90
Ammonia on moisture free basis (%)	1.26
Phosphoric Acid on moisture free basis (per cent.)	0.115
Potash (K_2O) on moisture free basis (per cent.)	0.105

M. 1450.—Soft Limestone (Calcium Carbonate), colored with Iron, from Jimmie Stephens, Lebanon.

M. 1451.—Black Clay, from A. Clark, River Junction.

M. 1452.—Soil, from Ernest H. Every, Sebastian. "No. 1."

Moisture in sample as received (%)	31.64
Ash on moisture free basis (%)	90.80
Ammonia on moisture free basis (%)	0.32
Phosphoric Acid on moisture free basis (per cent.)	0.042
Potash (K_2O) on moisture free basis (per cent.)	0.035

M. 1453.—Soil, from Ernest H. Every, Sebastian. "No. 2."

Moisture in sample as received (%)	79.92
Ash on moisture free basis (%)	60.41
Ammonia on moisture free basis (%)	1.13
Phosphoric Acid on moisture free basis (per cent.)	0.066
Potash (K_2O) on moisture free basis (per cent.)	0.060

M. 1457.—Soil, from Ernest H. Every, Sebastian. "No. 3."

Ash (%)	94.34
Phosphoric Acid	Trace.
Potash (K_2O)	0.045

M. 1458.—Soil, from Ernest H. Every, Sebastian. "No. 4."

Ash (%)	99.02
Ammonia (%)	0.017
Phosphoric Acid (%)	Trace.
Potash (K_2O)	0.075

M. 1459.—Impure Limestone (Calcium Carbonate), from R. D. Waring, Kissimmee.

M. 1460.—Mica shist, from W. H. Crugler, Jacksonville.

M. 1464.—Pond Muck, from Henry W. Smith, Wachula.

Ammonia on moisture free basis (%)	3.24
Ash on moisture free basis (%)	16.60
Insoluble matter on moisture free basis (per cent.)	14.83

M. 1465.—Brown Muck, from Ernest H. Every, Sebastian. "No. 6."

Ash on moisture free basis (%)	62.43
Ammonia on moisture free basis (%)	1.24

M. 1466.—Impure Kaolin, from J. B. Smith, Lakeland.

M. 1467.—Mica, from King & Bro., Harris.

M. 1471.—Limestone (Calcium Carbonate), from W. C. Warrington & Co., Jacksonville.

M. 1472.—Silicious Rock, from C. A. Edgerton, Quincy.

M. 1473.—Marl (Calcium Carbonate), from C. W. Kibler, Largo.

M. 1475.—Kaolin, from M. C. Lewis, Harper.

M. 1476.—Impure Fullers Earth, from T. W. Karstedt, Lake City.

M. 1478.—Burnt Clay, from D. B. Kent, Miami.

M. 1479.—Sandy Marl (Calcium Carbonate and Silica), from Hunter Land Company, Kissimmee.

M. 1482.—Muck, from Joe Cameron, Sanford.

Ash (%)	34.24
Ammonia (%)	2.59
Phosphoric Acid (%)	0.17
Potash (K_2O) (%)	0.205

M. 1483.—Conglomerate (clay) containing quartz pebbles, iron oxide and mica, from James Roberts, Grand Ridge.

M. 1484.—Sandy Kaolin, from W. A. D'Alemberte, Pensacola.

M. 1487.—Limestone, from G. A. Danley, Chipley.
Insoluble matter (%) 4.23
Lime (CaO) (%) 54.10
Equivalent to Calcium Carbonate (%) 96.52

M. 1488.—Carbonaceous Shale, from S. M. Miller, Graceville.

M. 1489.—Rotton Limestone (Calcium Carbonate), from Thomas Brown, Largo.

M. 1492.—Rock Phosphate, from Charles Jensen, Lacoochee. "No. 1."
Phosphoric Acid (%) 35.15
Equivalent to Bone Phospate of Lime (per cent.) 76.73

M. 1493.—Rock Phosphate, from Charles Jensen, Lacoochee. "No. 2."
Phosphoric Acid (%) 12.09
Equivalent to Bone Phosphate of Lime (per cent.) 26.39

M. 1494.—Rock Phosphate, from Charles Jensen, Lacoochee. "No. 3."
Phosphoric Acid (%) 35.17
Equivalent to Bone Phosphate of Lime (per cent.) 76.78

M. 1495.—Rock Phosphate, from Charles Jensen, Lacoochee. "No. 4."
Phosphoric Acid (%) 35.28
Equivalent to Bone Phosphate of Lime (per cent.) 77.02

M. 1487.—Sandy Clay, from Geo. T. Gaines, Victoria.

M. 1498.—Soil, from B. K. Buck, Maxville. "No. 10."
Ash on air dry basis (%)............. 96.70
Ammonia on air dry basis (%)...... 0.40

M. 1499.—Soil, from B. K. Buck, Maxville. "No. 15."
Ash on air dry basis (%)............. 94.21
Ammonia on air dry basis (%)...... 0.25

M. 1500.—Soil, from B. K. Buck, Maxville. "No. 16."
Ash on air dry basis (%)............. 95.76
Ammonia on air dry basis (%)...... 0.20

M. 1501.—Soil, from B. K. Buck, Maxville. "No. 13."
Ash on air dry basis (%)............. 93.03
Ammonia on air dry basis (%)...... 0.25

M. 1503.—Marl (Calcium Carbonate), from Bowen Sheppard, Bristol.

M. 1504.—Marl (Calcium Carbonate), from Pike Adair, Lakeland.

M. 1505.—Rock Phosphate, from William Child, Tallahassee. "No. 1."
Phosphoric Acid (%) 29.74
Equivalent to Bone Phosphate of Lime (per cent.) 64.91

M. 1506.—Rock Phosphate, from William Child, Tallahassee. "No. 2."

Phosphoric Acid (%) 24.89

Euqivalent to Bone Phosphate of Lime (per cent.) 54.34

M. 1507.—Iron Pyrites (Iron Sulfide), from Zephyrhill Colony Co., Zephyrhills, Pasco County.

M. 1508.—Muck, from J. J. Head, Tampa.

M. 1509.—Marl (Calcium Carbonate), from R. C. May, Miami.

M. 1514.—Boiler Compound, from Miss Clem Hampton, Tallahassee.

A Mixture of Sodium Phosphate, Sodium Sulphate and Sodium Hydrate.

M. 1515.—Powder, from A. P. McCaskill, Tallahassee.

The powder is arsenious acid, colored.

M. 1517.—Shell Marl (Calcium Carbonate and Silica), from F. Alesh, Omega.

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